Dräger medical
A Dräger and Siemens Company

Technical Documentation

Oxylog 1000
Emergency Ventilator

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General

1 Symbols and Definitions

WARNING

A WARNING statement provides important information about a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

A CAUTION statement provides important information about a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to the user or patient or in damage to the equipment or other property.

NOTE

A NOTE provides additional information intended to avoid inconvenience during operation.

Definitions according to German standard DIN 31051:

Inspection	=	examination of actual condition
Maintenance	=	measures to maintain specified condition
Repair	=	measures to restore specified condition
Servicing	=	inspection, maintenance, and repair

2 Notes

This Technical Documentation conforms to the IEC 60601-1 standard.

Read each step in every procedure thoroughly before beginning any test. Always use the proper tools and specified test equipment. If you deviate from the instructions and/or recommendations in this Technical Documentation, the equipment may operate improperly or unsafely, or the equipment could be damaged.

It is our recommendation to use only Dräger parts and supplies.

The maintenance procedures described in this Technical Documentation may be performed by qualified service personnel only. These maintenance procedures do not replace inspections and servicing by the manufacturer.

The information in this Technical Documentation is confidential and may not be disclosed to third parties without the prior written consent of the manufacturer.

This Technical Documentation is for the purpose of information only. Product descriptions found in this Technical Documentation are in no way a substitute for reading and studying the Instructions for Use/Operating Manual enclosed with the product at the time of delivery.

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Function Description

1 General information on the Oxylog 1000

The Oxylog 1000 is a time-controlled, volume-constant emergency and transport ventilator for patients weighing 7.5 kg or above. The Oxylog 1000 has the operating mode: controlled ventilation (IPPV = Intermittent Positive Pressure Ventilation).

Fig. 1: Front view of the Oxylog 1000

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2 Components of the Oxylog 1000

The Oxylog 1000 comprises the following components:

- Pressure reducer
- ON/OFF switch
- Inspiratory/expiratory switching valve
- Minute volume control valve
- Frequency control
- Safety valve
- Emergency air valve
- Pressure gauge
- Injector
- Vent valve
- Air Mix/No Air Mix selector switch
- Logic circuit for disconnect alarm and stenosis alarm
- Alarm silence

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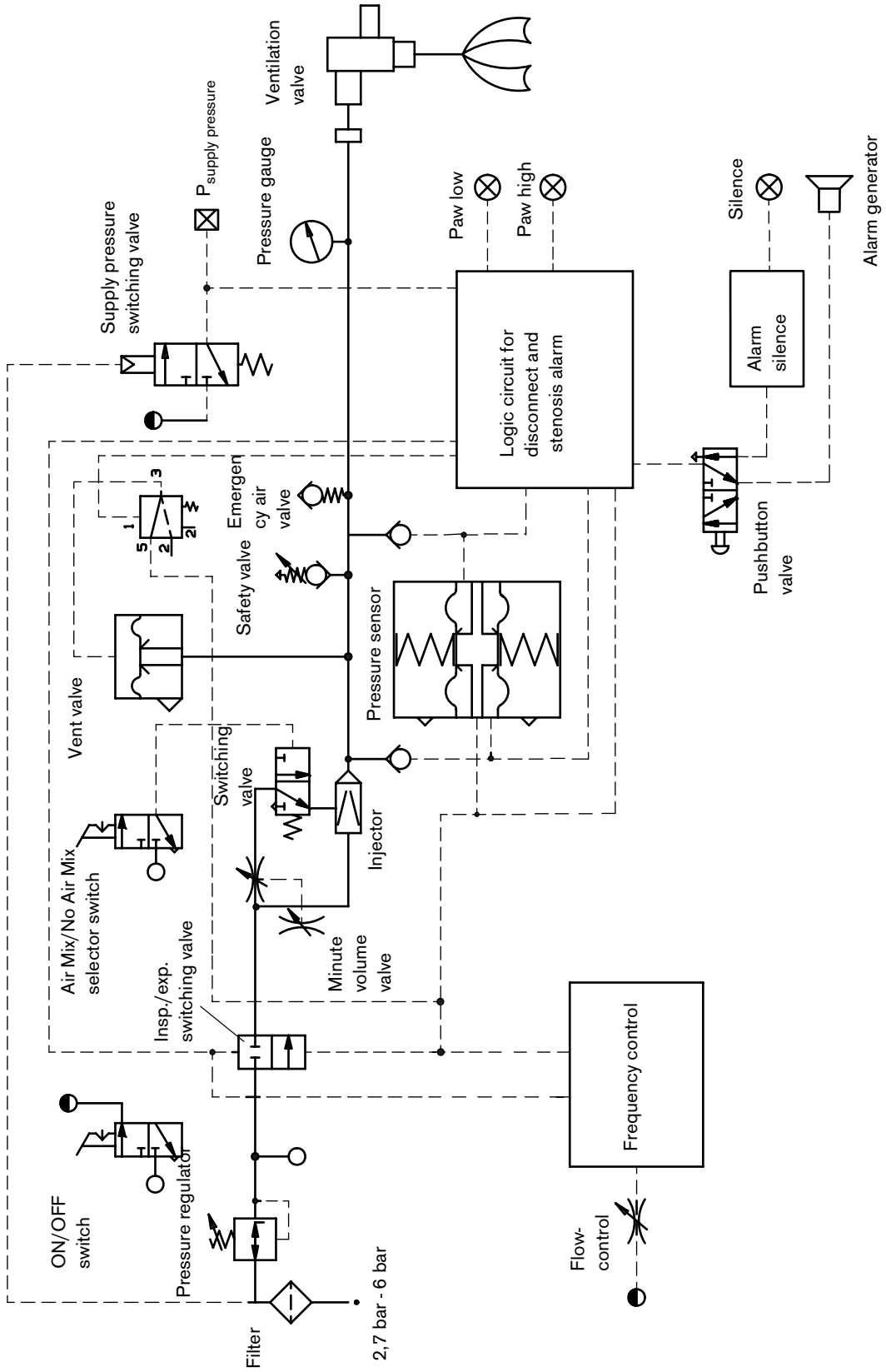

Figure 2 Block diagram of the Oxylog 1000

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3 Pneumatic Control (old Oxylog 1000)

3.1 Gas Supply

The compressed gas is supplied from the central supply system (CS) or from an O_2 cylinder with pressure regulator. The operating pressure of the Oxylog 1000 is between 2.7 bar and 6 bar.

CAUTION
Risk of damage to equipment! Dust, oil and humidity in medical gases may impair the functioning of the equipment or damage it. Use only dust-free, oil-free and dry medical gases.

The supply gas flows via the port (A1), the filter (F1) and the pressure regulator (DR1) to the manifold (O). The pressure regulator (DR1) regulates the pressure of the supply gas to 1.5 bar.

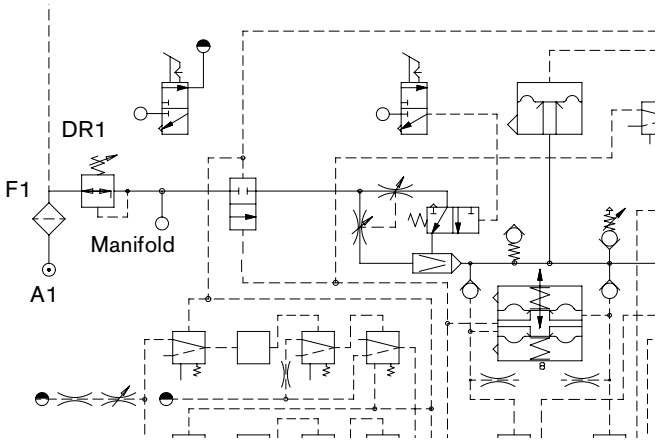

Fig. 3: Segment of the flow chart: Supply gas inlet

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3.2 Frequency Control

When the unit is off, driving gas flows via the manifold

and through the dosage valve D2 to the 3/2-way valve DMR5 and to DMR6. In consequence, DMR6 switches through and the switching valve WV1 switches to expiration. At the same time DMR1 is switched; DMR2 is vented via the volume V1 and DMR1.

If the switch S1 is switched, the gas flows via the manifold

to D5, the frequency control valve FD1, and to DMR1 and 4. DMR4 fills V2, and DMR5 is switched with a delay; this vents DMR6, 4 and 1. At the same time, DMR3 is switched over via D1 and DMR2, and WV1 switches to inspiration. Vent valve EV is closed via DMR18.

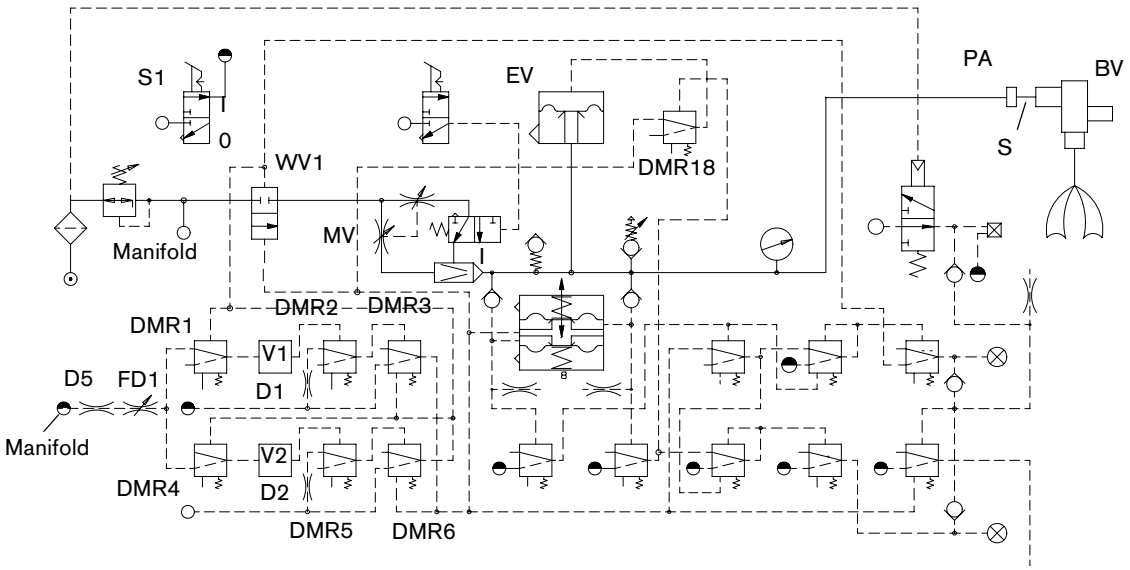

Figure 4 Segment of the flow chart: Frequency Control

During the inspiration phase, the supply gas flows through the switching valve (WV1 - see illustration above), the minute volume control valve (MV), the injector (I), the patient connection port (PA), the hose system (S) and the ventilation valve (BV) to the patient.

During expiration, the vent valve (EV) is open to the atmosphere, so that pressure is relieved from the hose system (S) and the ventilation valve (BV); the patient can breathe out through the expiration branch of the ventilation valve (BV) to atmosphere.

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3.3 Air Mix/No Air Mix Selector Switch

The setting of the Air Mix/No Air Mix selector switch determines the O_2 concentration of the supply gas for the patient.

When the Air Mix/No Air Mix selector switch is set to "Air Mix", the injector (I) takes in ambient air through the 3/2-way valve (WV2). The O_2 concentration of the supply gas for the patient is approx. 50 vol.% O_2.

When the Air Mix/No Air Mix selector switch is set to "No Air Mix", the injector (I) takes in the supply gas through the 3/2-way valve (WV2). The O_2 concentration of the supply gas for the patient is approx. 100 vol.% O_2.

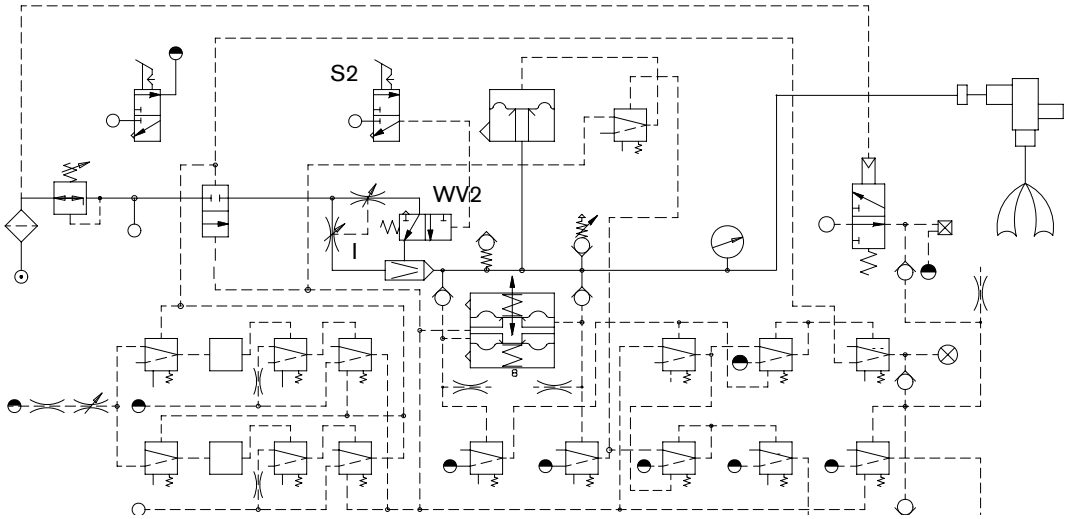

Figure 5 Segment of the flow chart: Air Mix/No Air Mix selector switch

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3.4 Safety Devices

The Oxylog 1000 has the following safety devices:

- Mechanical safety valve
- Pressure gauge
- Emergency air valve
- Disconnect alarm
- Stenosis alarm
- Alarm warning of failure of the compressed gas supply
- Alarm silence

3.4.1 Mechanical Safety Valve

The mechanical safety valve limits the ventilation pressure to approx. 80 mbar.

3.4.2 Pressure Gauge

The pressure gauge indicates the current airway pressure during the inspiration phase. The display range is -10 mbar to 80 mbar.

3.4.3 Emergency Air Valve

The spontaneously breathing patient can breathe in ambient air through the emergency air valve if the Oxylog 1000 has failed due to a fault.

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3.4.4 Disconnect Alarm

The disconnect alarm (Paw low) warns of a pressure drop in the patient gas. The disconnect alarm is triggered under the following conditions:

– The hose system connection to the patient is interrupted
– The ventilation valve is incorrectly fitted or damaged
– The cuff has a leak
– Internal device error

If the ventilation pressure is less than 10 mbar (disconnect condition), the 3/2-way valve (DMR7 - see illustration above) is not triggered. That is, the 3/2-way valves (DMR9 and DMR10) operate the 3/2-way valve (DMR11). During the expiration phase the indicator (Paw low) visually indicates the disconnection and the alarm generator (L1) delivers an audible warning.

If the ventilation pressure is higher than 10 mbar, the 3/2-way valve (DMR7) switches. The 3/2-way valves (DMR9, DMR10 and DMR11) vent to atmosphere. The visual and audible alarms are suppressed.

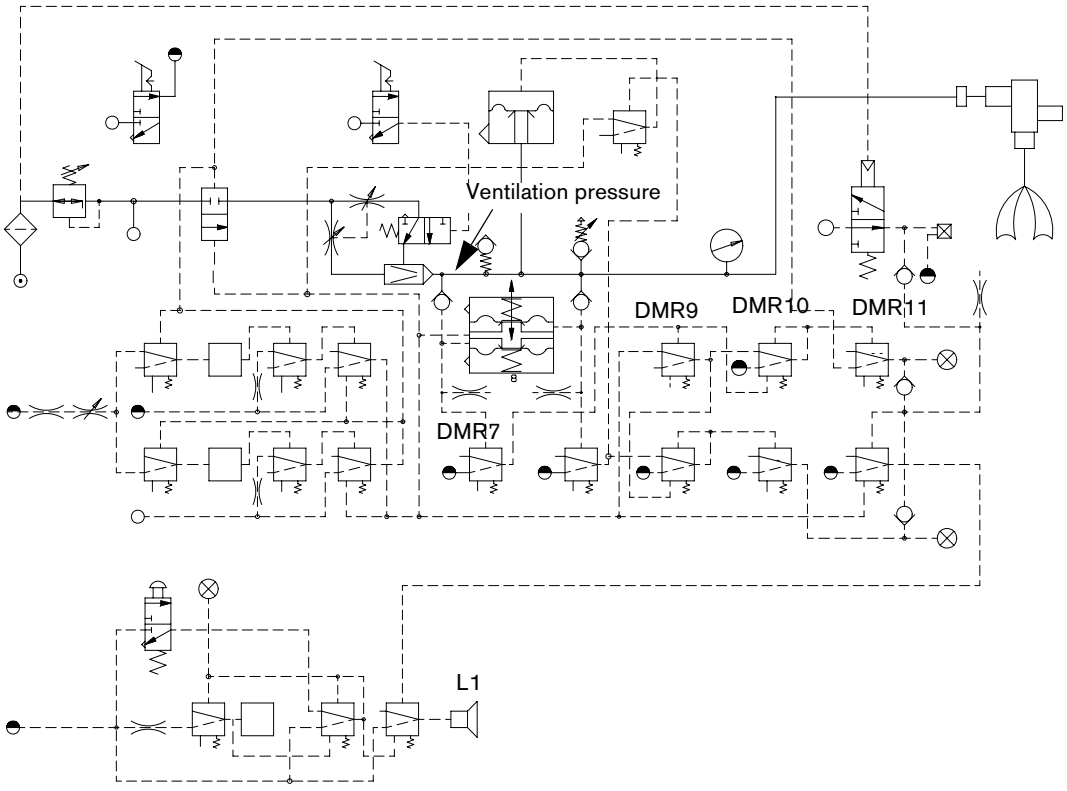

Figure 6 Flow chart of the Oxylog 1000: Disconnect Alarm

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3.4.5 Stenosis Alarm

The stenosis alarm (Paw high) warns of a high airway pressure in the patient branch. The stenosis alarm is triggered under the following conditions:

– The patient's airways are blocked
– The ventilation hose is kinked
– The lung compliance is reduced
– The patient "fights" the ventilator

If the ventilation pressure is equal to or higher than 10 mbar, but the alarm limit (30 mbar to 60 mbar) is pre-set lower, the 3/2-way valve (DMR8) is not triggered. The 3/2-way valves (DMR12 and DMR13) vent through the 3/2-way valve (DMR8).

If the ventilation pressure exceeds the pre-set alarm limit, the 3/2-way valve (DMR8) activates the 3/2-way valves (DMR12 and DMR13). The 3/2-way valve (DMR13) activates the “Paw high” indicator (Z3) and the 3/2-way valve (DMR14) activates the alarm generator (L1). At the same time the 3/2-way valve (DMR8) switches the 3/2-way valve (DMR18). The vent valve (EV) opens the supply gas path to atmosphere. This condition persists until the next inspiratory phase.

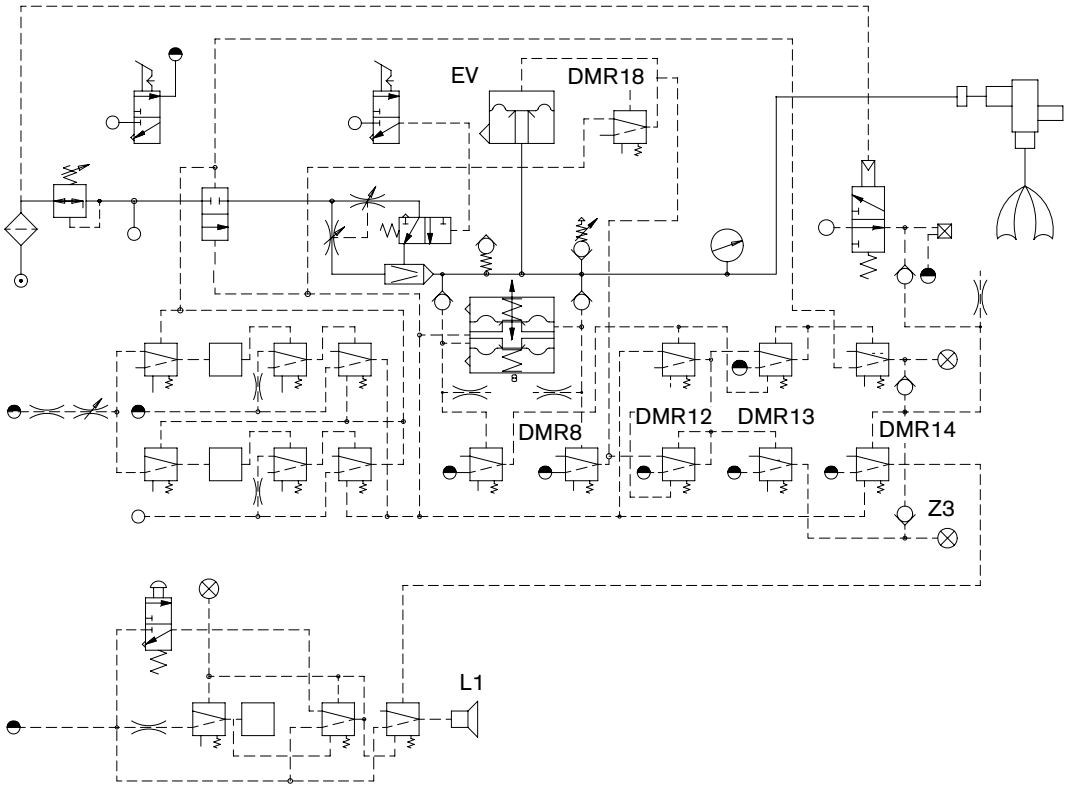

Figure 7 Flow chart of the Oxylog 1000: Stenosis alarm

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3.4.6 Gas Supply Failure Warning (Pv)

If the gas supply fails or falls below a defined pressure, the Oxylog 1000 delivers two alarms:

- Visual alarm indicator "Pv"
- Audible alarm (alarm generator)

The alarm is triggered under the following conditions:

- The pressure of the gas supply from the central supply system or from the O_2 cylinder is inadequate or absent
- The valve of the O_2 cylinder is closed
- The gas supply connector is incorrectly installed

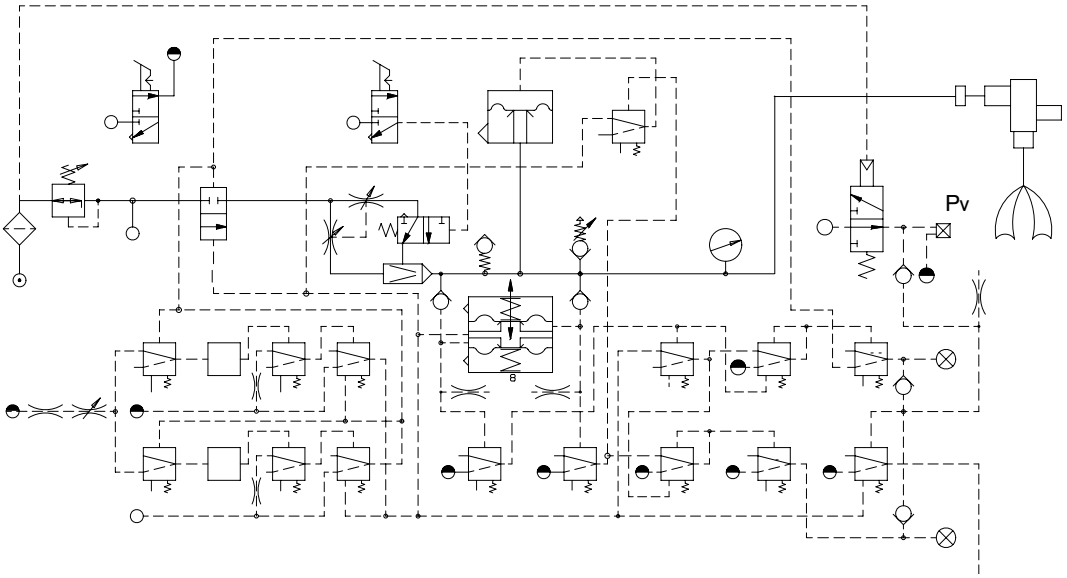

Figure 8 Segment of the flow chart: Gas supply failure alarm

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3.5 Alarm Silence

When the pushbutton valve (T1) is pressed the 3/2-way valve (DMR15) fills the volume (V3) and activates the 3/2-way valve (DMR16). The 3/2-way valve (DMR17) vents the alarm generator to atmosphere. The alarm generator (L1) is inactive up to the switching point of the volume (V3) (approx. 2 minutes).

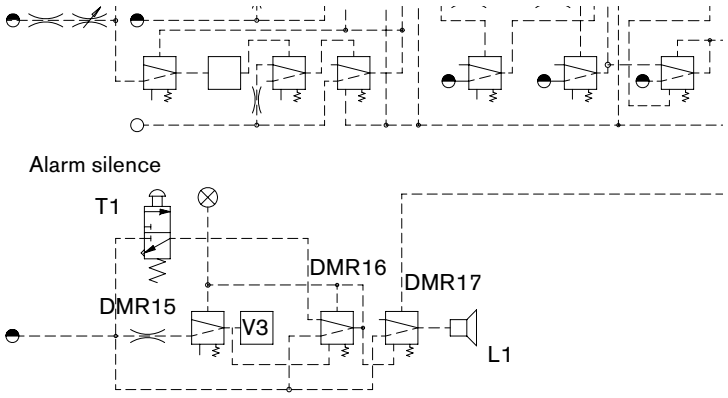

Fig. 9: Segment of the flow chart: Alarm silence

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3.6 Pressure Sensor

During ventilation, the pressure sensor controls and switches the stenosis and disconnection of the patient.

The pressure sensor comprises two diaphragms. The ventilation pressure acts on the undersides of the diaphragms. The supply pressure (Insp.) is centered on the craters on the pressure sensor during the inspiration phase. The built-in mechanical springs in the pressure sensor exert different forces on the diaphragms:

– Non-adjustable spring force (10 mbar)
– Spring force adjustable (30 mbar to 60 mbar) with the alarm control valve

One or other of the diaphragms is raised according to the respective compensation pressures on the mechanical springs.

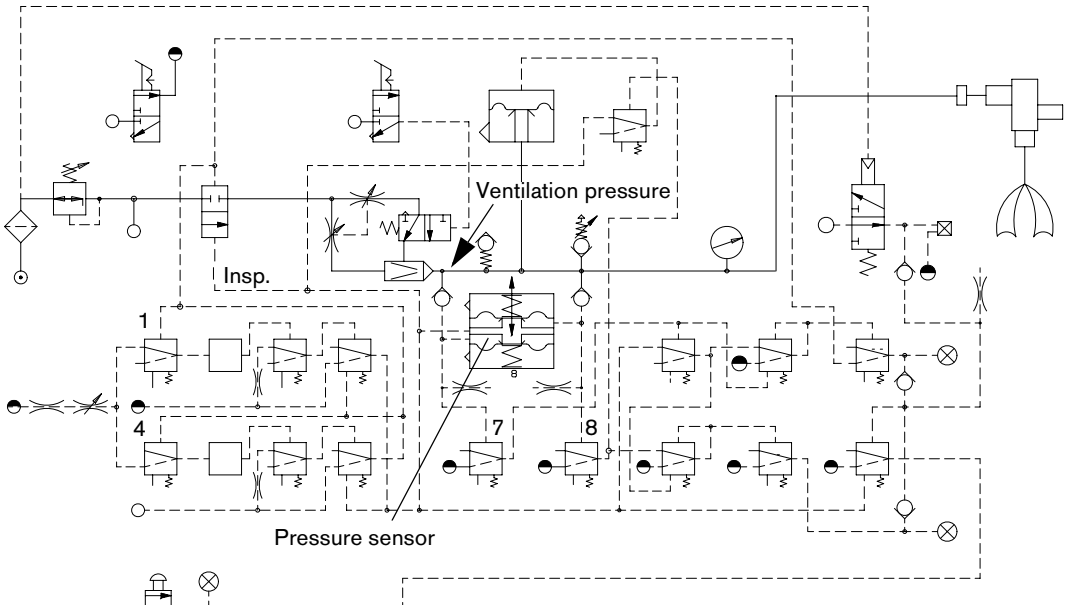

Figure 10 Segment of the flow chart: Pressure sensor

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4 Location of Oxylog 1000 (old) Assemblies

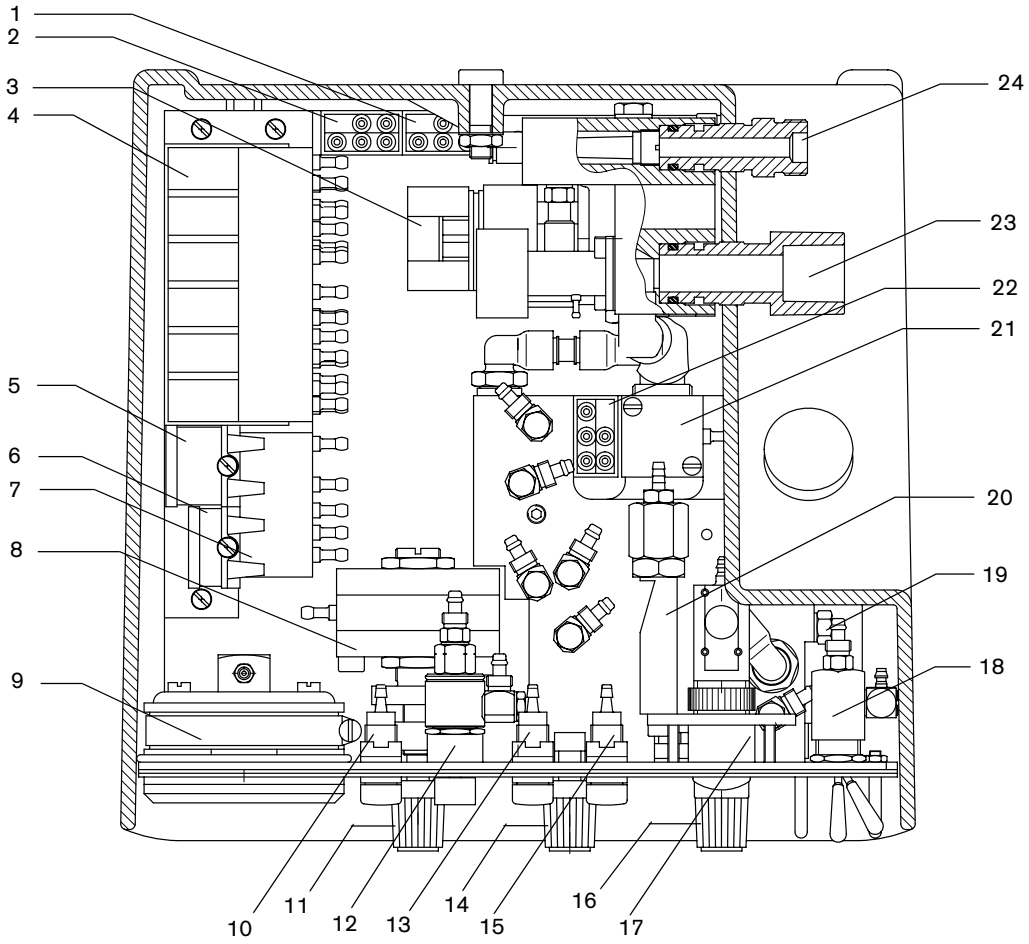

Figure 11 Top view of the open Oxylog 1000 (old)

Table 1 Key

1	3/2-way valve (DMR7)	9	Pressure gauge	17	Indicator (Pv)
2	3/2-way valve (DMR8)	10	Indicator (Silence)	18	Air Mix/No Air Mix
3	Pressure regulator	11	Alarm control valve	19	On switch
4	Alarm logic (under frequency control)	12	Silence button	20	Patient block
5	Volume (expiration)	13	Indicator (Paw low)	21	Vent valve
6	Volume (inspiration)	14	Frequency control valve	22	DMR18
7	Alarm silence	15	Indicator (Paw high)	23	Patient connection port
8	Pressure sensor (double-diaphragm switch)	16	MV control valve	24	Gas connection port

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5 Pneumatic Control (new Oxylog 1000)

5.1 Gas Supply

The compressed gas is supplied from the central supply system (CS) or from an O_2 cylinder with pressure regulator. The operating pressure of the Oxylog 1000 is between 2.7 bar and 6 bar.

CAUTION
Risk of damage to equipment! Dust, oil and humidity in medical gases may impair the functioning of the equipment or damage it. Use only dust-free, oil-free and dry medical gases.

The supply gas flows via the port (A1), the filter (F1) and the pressure regulator (DR1) to the manifold (VL). The pressure regulator (DR1) regulates the pressure of the supply gas to 1.5 bar.

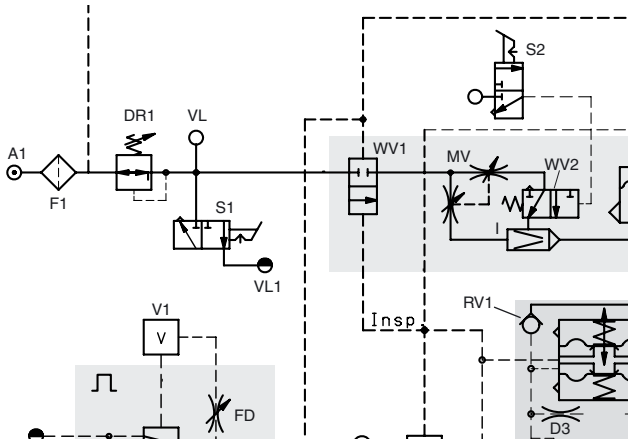

Fig. 12: Segment of the flow chart: Supply gas inlet

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5.2 Frequency Control

When the unit is switched off, valve WV1 and switch S1 are closed. No ventilation is carried out and there is no pressure at the frequency control.

If Oxylog 1000 is switched on using switch S1, the gas flows through switch S1 and manifold VL1 to DMR1 and DMR2 of the frequency control. The gas flows through valve DMR1 to the frequency adjusting valve FD and to the control connection of DMR2. DMR2 switches. The gas flows to DMR2 and WV1. DMR3 and WV1 switch. Inspiration is carried out.

The volume V1 is filled through the frequency adjusting valve FD. Depending on how the frequency adjusting valve FD is set, the volume V1 is filled faster or slower thus determining the duration of the inspiration. As soon as volume V1 is filled, DMR1 switches thereby switching also DMR2. The gas present at DMR3 and WV1 can escape through DMR2. DMR3 and WV1 switch. Expiration starts.

The gas contained in the volume escapes through the frequency adjusting valve FD and DMR1. Depending on how the frequency adjusting valve FD is set, the volume V1 is emptied faster or slower thus determining the duration of the expiration. As soon as the volume is empty, DMR1 switches. The expiration phase is over and the procedure restarts.

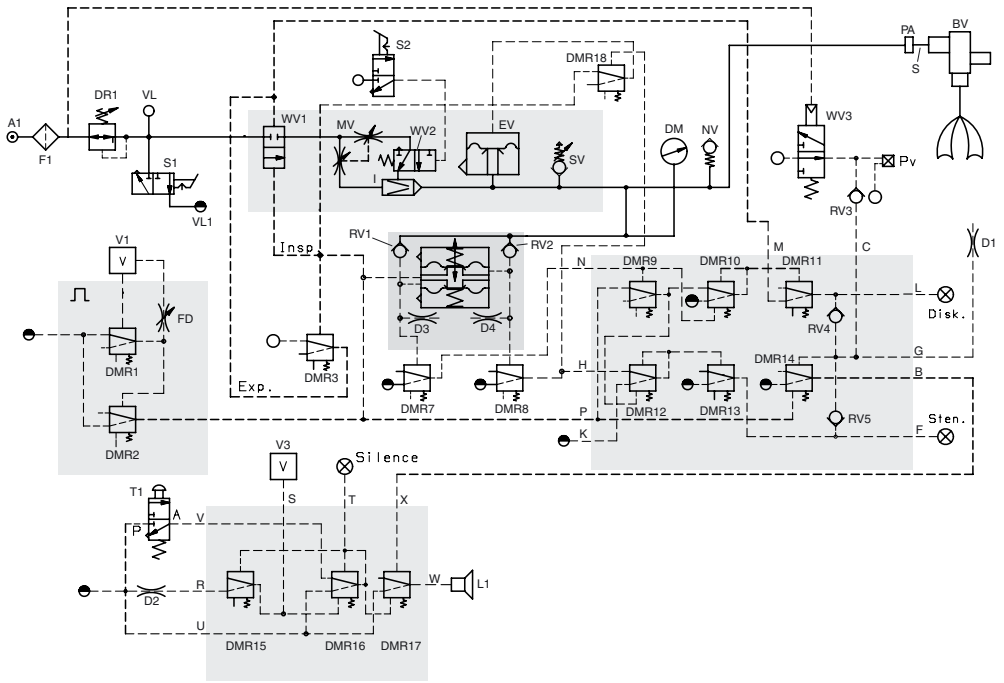

Figure 13 Segment of the flow chart: Frequency control

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5.3 Air Mix/No Air Mix Selector Switch

The setting of the Air Mix/No Air Mix selector switch determines the O_2 concentration of the supply gas for the patient.

When the Air Mix/No Air Mix selector switch is set to "Air Mix", the injector (I) takes in ambient air through the 3/2-way valve (WV2). The O_2 concentration of the supply gas for the patient is approx. 50 vol.% O_2.

When the Air Mix/No Air Mix selector switch is set to "No Air Mix", the injector (I) takes in the supply gas through the 3/2-way valve (WV2). The O_2 concentration of the supply gas for the patient is approx. 100 vol.% O_2.

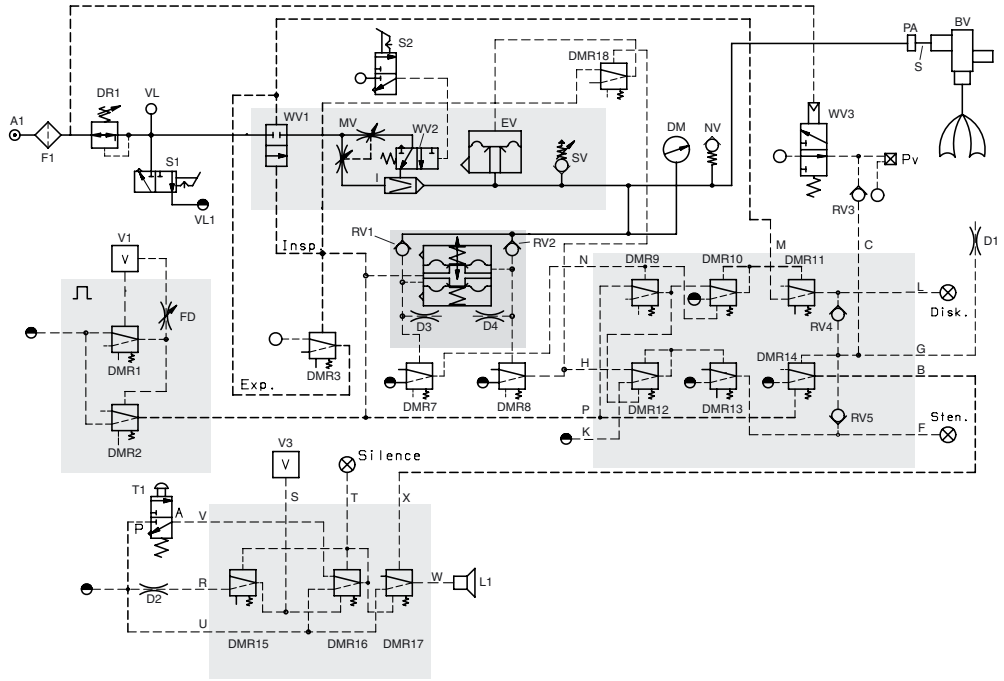

Figure 14 Segment of the flow chart: Air Mix/No Air Mix selector switch

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5.4 Safety Devices

The Oxylog 1000 has the following safety devices:

- Mechanical safety valve
- Pressure gauge
- Emergency air valve
- Disconnect alarm
- Stenosis alarm
- Gas supply failure alarm
- Alarm silence

5.4.1 Mechanical Safety Valve

The mechanical safety valve limits the ventilation pressure to approx. 90 mbar.

5.4.2 Pressure Gauge

The pressure gauge indicates the current airway pressure during the inspiration phase. The display range is -10 mbar to 80 mbar.

5.4.3 Emergency Air Valve

The spontaneously breathing patient can breathe in ambient air through the emergency air valve if the Oxylog 1000 has failed due to a fault.

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5.4.4 Disconnect Alarm

The disconnect alarm (Paw low) warns of a pressure drop in the patient gas. The disconnect alarm is triggered under the following conditions:

- The hose system connection to the patient is interrupted
- The ventilation valve is incorrectly fitted or damaged
- The cuff has a leak
- Internal device error

If the ventilation pressure is less than 10 mbar (disconnect condition), the 3/2-way valve (DMR7 - see illustration above) is not triggered. That is, the 3/2-way valves (DMR9 and DMR10) operate the 3/2-way valve (DMR11). During the expiration phase the indicator (Paw low) visually indicates the disconnection and the alarm generator (L1) delivers an audible warning.

If the ventilation pressure is higher than 10 mbar, the 3/2-way valve (DMR7) switches. The 3/2-way valves (DMR9, DMR10 and DMR11) vent to atmosphere. The visual and audible alarms are suppressed.

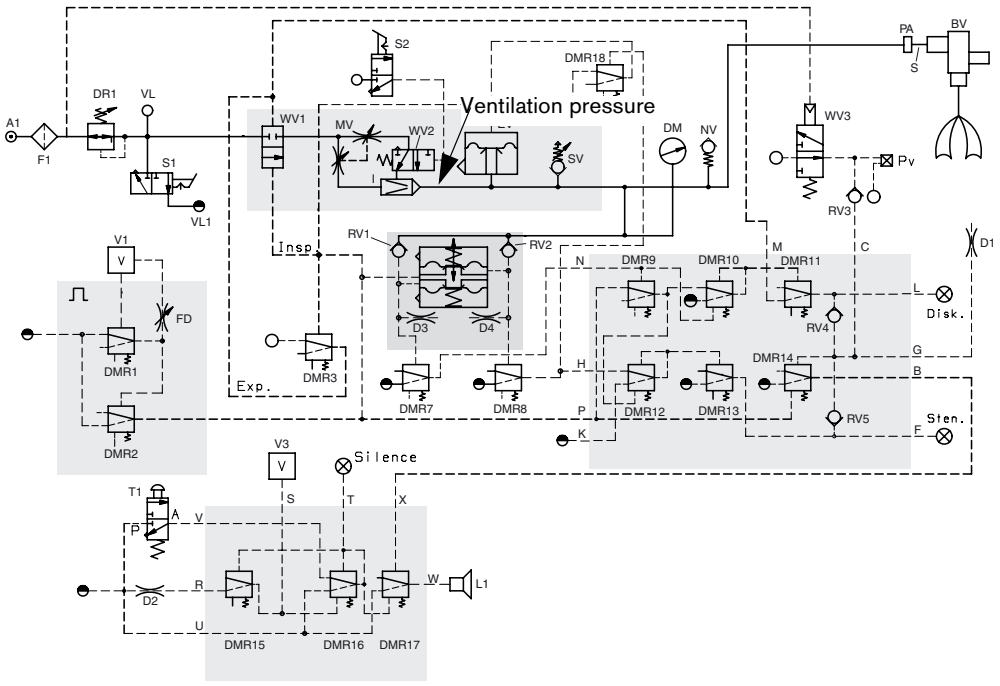

Figure 15 Flow chart of the Oxylog 1000: Disconnect alarm

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5.4.5 Stenosis Alarm

The stenosis alarm (Paw high) warns of a high airway pressure in the patient branch. The stenosis alarm is triggered under the following conditions:

– The patient's airways are blocked
– The ventilation hose is kinked
– The lung compliance is reduced
– The patient "fights" the ventilator

If the ventilation pressure is equal to or higher than 10 mbar, but the alarm limit (30 mbar to 60 mbar) is pre-set lower, the 3/2-way valve (DMR8) is not triggered. The 3/2-way valves (DMR12 and DMR13) vent through the 3/2-way valve (DMR8).

If the ventilation pressure exceeds the pre-set alarm limit, the 3/2-way valve (DMR8) activates the 3/2-way valves (DMR12 and DMR13). The 3/2-way valve (DMR13) activates the “Paw high” indicator (Z3) and the 3/2-way valve (DMR14) activates the alarm generator (L1). At the same time the 3/2-way valve (DMR8) switches the 3/2-way valve (DMR18). The vent valve (EV) opens the supply gas path to atmosphere. This condition persists until the next inspiratory phase.

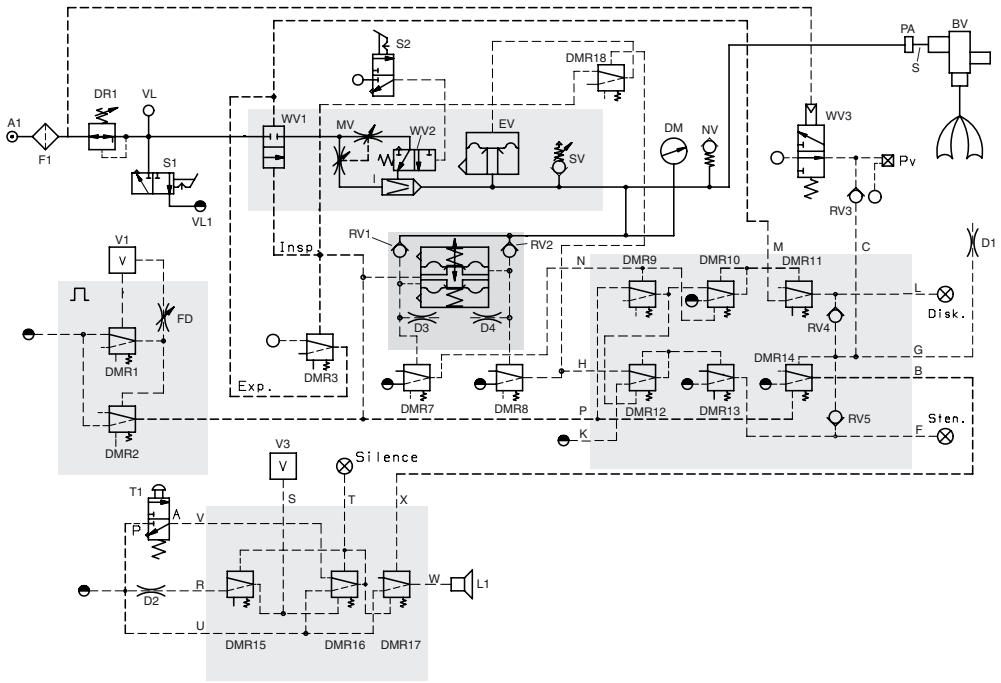

Figure 16 Flow chart of the Oxylog 1000: Stenosis alarm

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5.4.6 Gas Supply Failure Warning (Pv)

If the gas supply fails or falls below a defined pressure, the Oxylog 1000 delivers two alarms:

- Visual alarm indicator "Pv"
- Audible alarm (alarm generator)

The alarm is triggered under the following conditions:

- The pressure of the gas supply from the central supply system or from the O_2 cylinder is inadequate or absent
- The valve of the O_2 cylinder is closed
- The gas supply connector is incorrectly installed

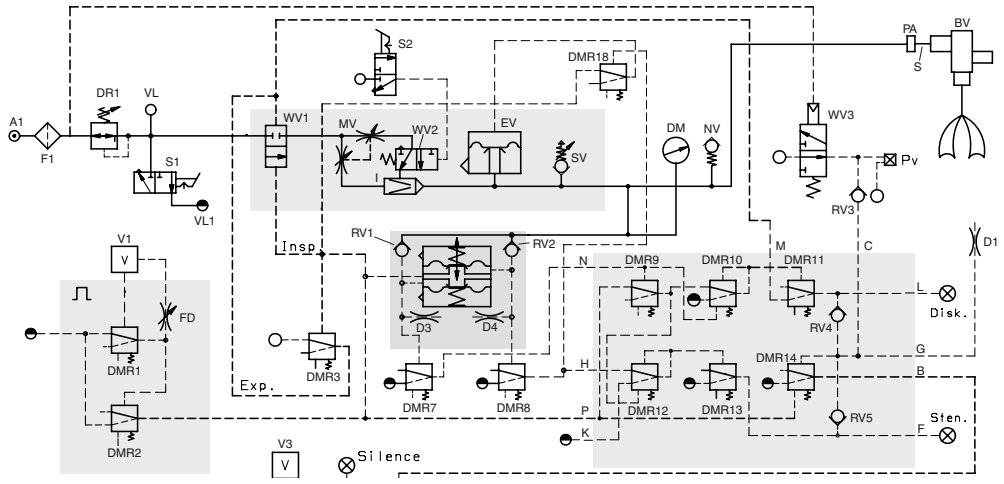

Figure 17 Segment of the flow chart: Gas supply failure alarm

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5.5 Alarm Silence

When the pushbutton valve (T1) is pressed the 3/2-way valve (DMR15) fills the volume (V3) and activates the 3/2-way valve (DMR16). The 3/2-way valve (DMR17) vents the alarm generator to atmosphere. The alarm generator (L1) is inactive up to the switching point of the volume (V3) (approx. 2 minutes).

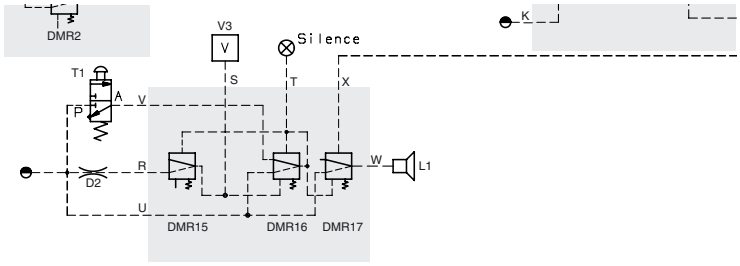

Fig. 18: Segment of the flow chart: Alarm silence

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5.6 Pressure Sensor

During ventilation, the pressure sensor controls and switches the stenosis and disconnection of the patient.

The pressure sensor comprises two diaphragms. The ventilation pressure acts on the undersides of the diaphragms. The supply pressure (Insp.) is centered on the craters on the pressure sensor during the inspiration phase. The built-in mechanical springs in the pressure sensor exert different forces on the diaphragms:

– Non-adjustable spring force (10 mbar)
– Spring force adjustable (30 mbar to 60 mbar) with the alarm control valve

One or other of the diaphragms is raised according to the respective compensation pressures on the mechanical springs.

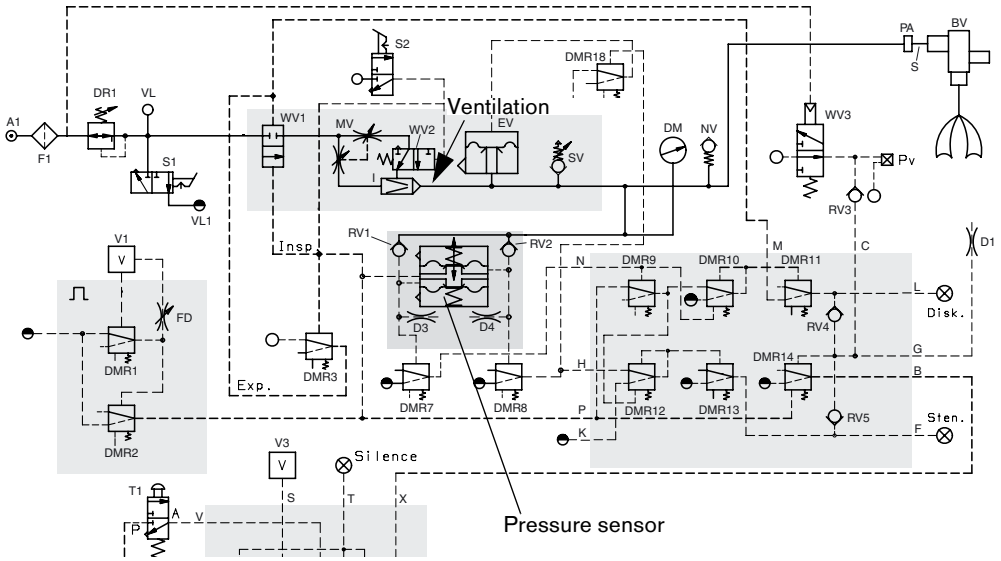

Figure 19 Segment of the flow chart: Pressure sensor

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6 Location of Oxylog 1000 (new) Assemblies

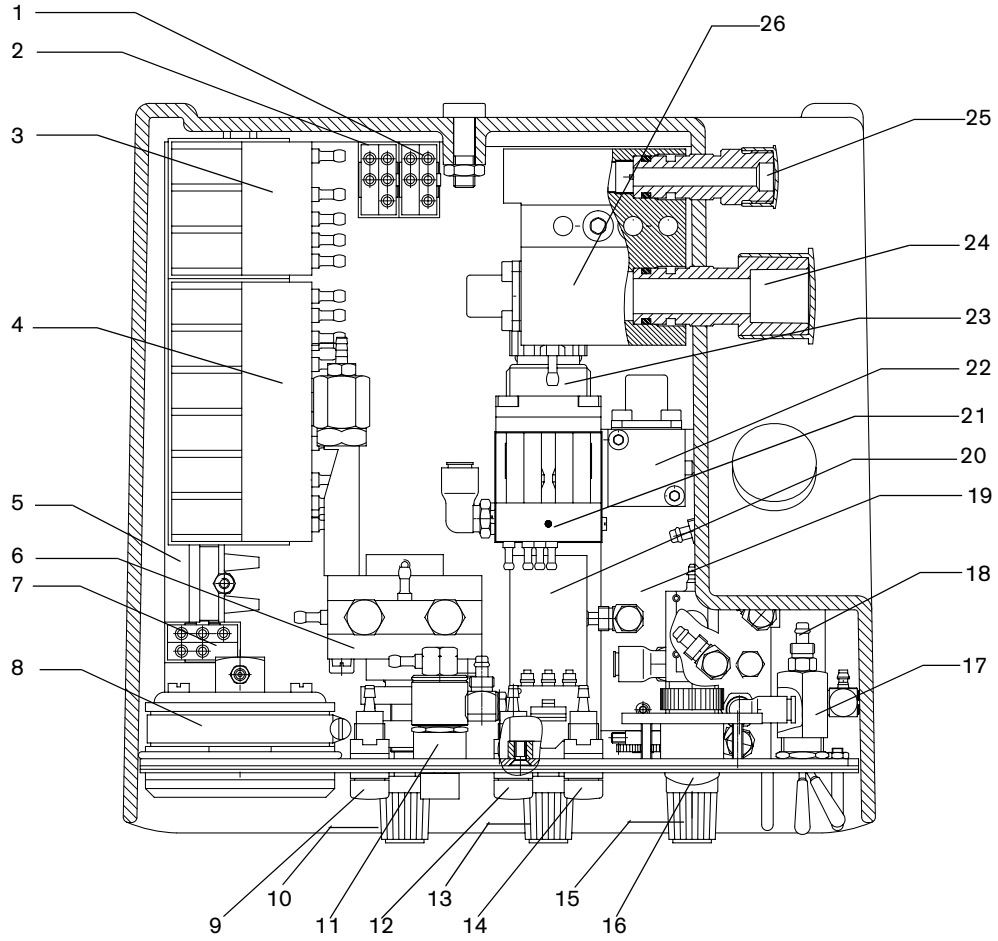

Figure 20 Top view of the open Oxylog 1000 (new)

Table 2 Key

1	3/2-way valve (DMR8)	9	Indicator (Silence)	18	On switch
2	3/2-way valve (DMR7)	10	Alarm control valve	19	Ventilator block
3	Alarm silence	11	Silence button	20	Frequency control
4	Alarm logic	12	Indicator (Paw low)	21	DMR1, DMR2
5	Volume (frequency)	13	Frequency control valve	22	Vent valve
6	Pressure sensor (double-diaphragm switch)	14	Indicator (Paw high)	23	Pressure regulator
		15	MV control valve	24	Patient connection port
7	DMR18	16	Indicator (Pv)	25	Gas connection port
8	Pressure gauge	17	Air Mix/No Air Mix	26	Patient block

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Maintenance Procedures

1 General notes

WARNING

Danger of infection! Clean and disinfect the Oxylog 1000, or the relevant parts, according to hospital regulations prior to any servicing work or before returning the appliance or parts of it for repair purposes.

NOTE
Dispose of the pressure regulator in accordance with local waste disposal regulations.

2 Maintenance intervals

Observe the following checks and maintenance intervals:

2.1 Measures every two years

Safety check	• Have routine safety checks performed every two years by trained specialists.
Inspection and servicing of the appliance	• Have an inspection and service performed every two years by trained specialists.

2.2 Measures every six years

Pressure regulator	• Every six years have the pressure regulator overhauled by trained specialists.

2.2.1 Disposal of pressure regulators

NOTE
Dispose of pressure regulators in accordance with local waste disposal regulations.

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3 Pressure regulator

3.1 General points concerning the pressure regulator

CAUTION
Have the pressure regulator replaced every six years by trained specialists.

3.2 Removing/replacing the pressure regulator

- Switch off the Oxylog 1000 at the mains switch.
- Disconnect the connector of the compressed gas hose from the socket on the central supply system/compressed gas cylinder.
- Detach the ventilation hose from the Oxylog 1000.
- Unscrew the compressed gas hose from the Oxylog 1000.
- Remove the scews (1) and washers.
- Remve the grub screws (2).
- Withdraw the connection socket.

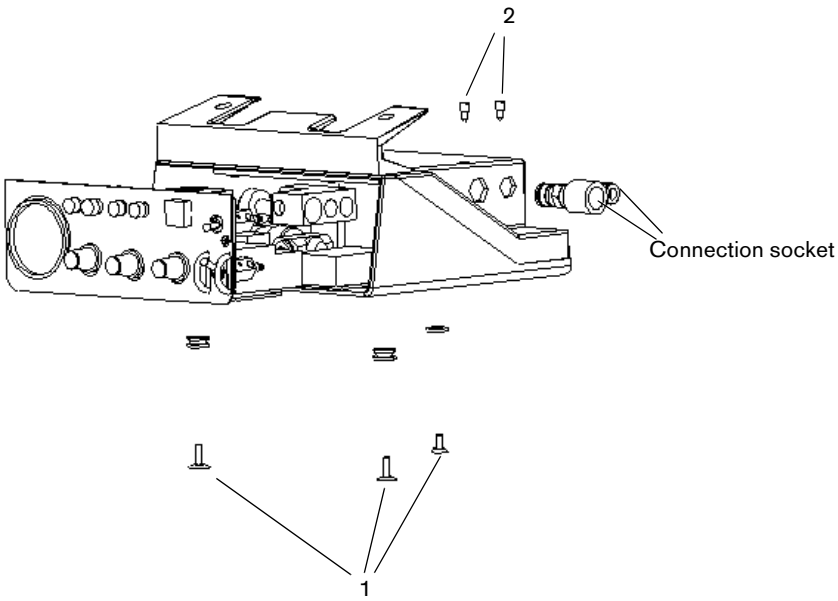

Fig. 1: View of the Oxylog 1000: Removing screws

- Withdraw the drawer unit from the housing of the Oxylog 1000.

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- Remove the screws (1).

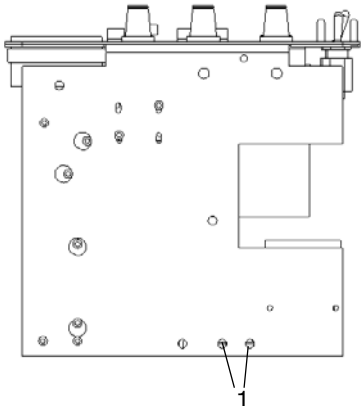

Fig. 2: Bottom view of the Oxylog 1000: Removing screws

- Detach the small silicone hose (hose connection: supply block to pressure gauge) from the hose connection socket of the supply block.
- Plug the large silicone hose (hose connection: supply block to working block) from the hose connection socket of the supply block.

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- Press in the circlip on the hose connection socket, at the same time withdrawing the PA tube (hose connection: supply block to working block).

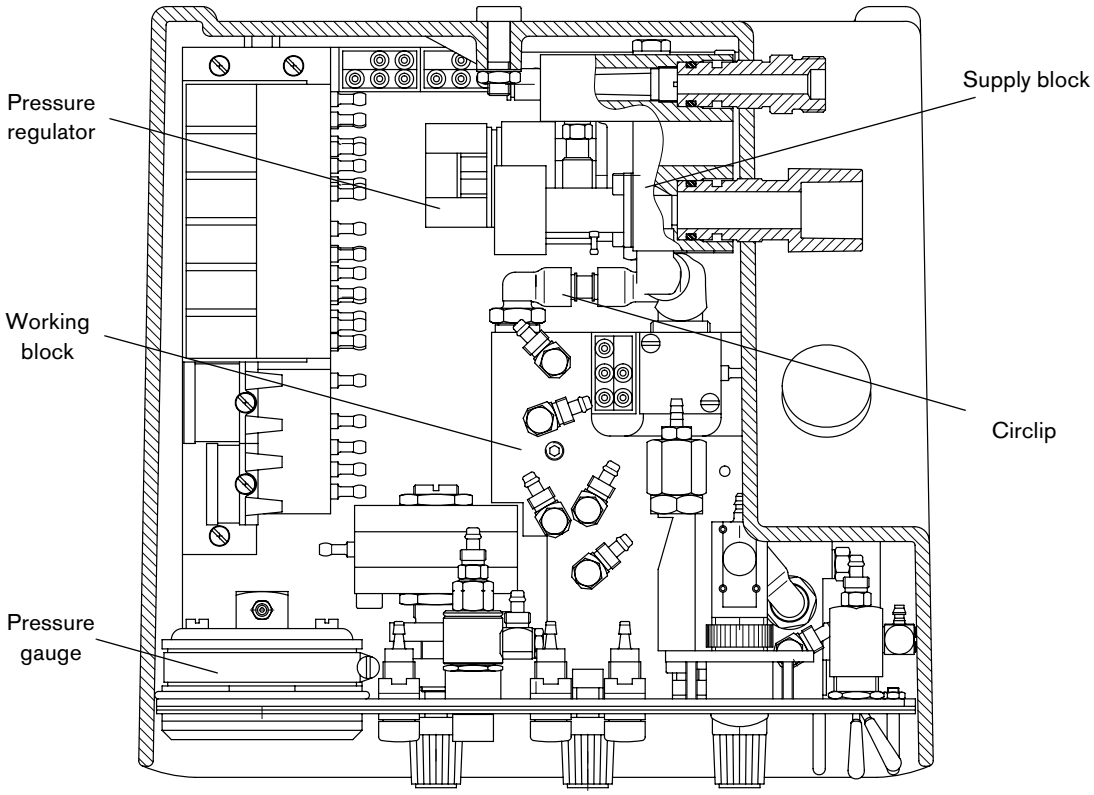

Figure 3 View of the drawer unit of the Oxylog 1000

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- Unscrew the screw (1).
- Fit the hose connection socket with the PA tube of the old pressure regulator on the new ex-factory pressure regulator.

NOTE
Dispose of the old pressure regulator in accordance with local waste disposal regulations.

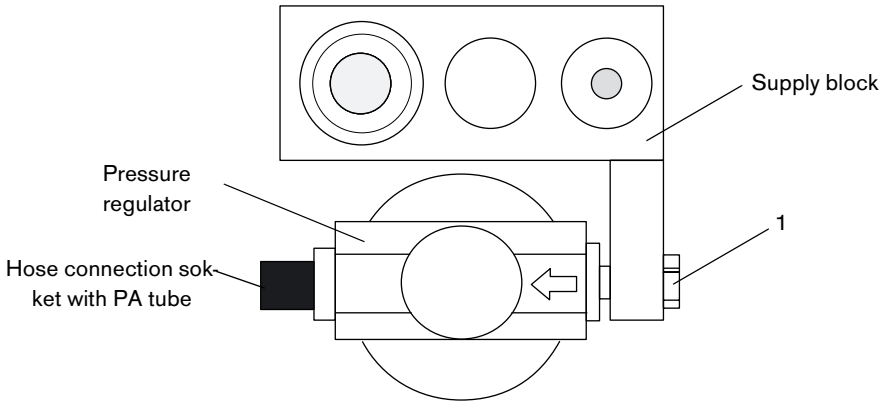

Fig. 4: View of the supply block: Removing the screw

- Mount the new pressure regulator on the supply block by the screw (1). (Make sure the sealing washers between the pressure regulator and the supply block and between the screw head and the supply block are fitted!)
- Press the PA tube (pressure regulator outlet) into the hose connection socket of the working block.
- Check that the PA tube is seated firmly in the hose connection socket of the working block by carefully pulling on the PA tube.
- Plug the large silicone hose (hose connection: supply block to working block) onto the hose connection socket of the supply block.
- Detach the small silicone hose (hose connection: supply block to pressure gauge) onto the hose connection socket of the supply block.
- Mount the supply block with distance rollers on the drawer unit of the Oxylog 1000.
- Secure the connection socket for the ventilation hose by the grub screw on the drawer unit of the Oxylog 1000.
- Secure the connection socket for the compressed gas hose by the grub screw on the drawer unit of the Oxylog 1000.

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- Detach the hose from the main switch and connect the pressure gauge (measuring range: 0 to 6 bar) to the connection socket of the **main switch**; see following illustration.
- Screw the compressed gas hose for compressed gas supply onto the connection socket of the Oxylog 1000.
- Plug the connector of the compressed gas hose into the wall outlet/compressed gas cylinder.
- Connect the ventilation hose with flowmeter (measuring range: 10 to 120 L/min) to the connection socket (ventilation hose).

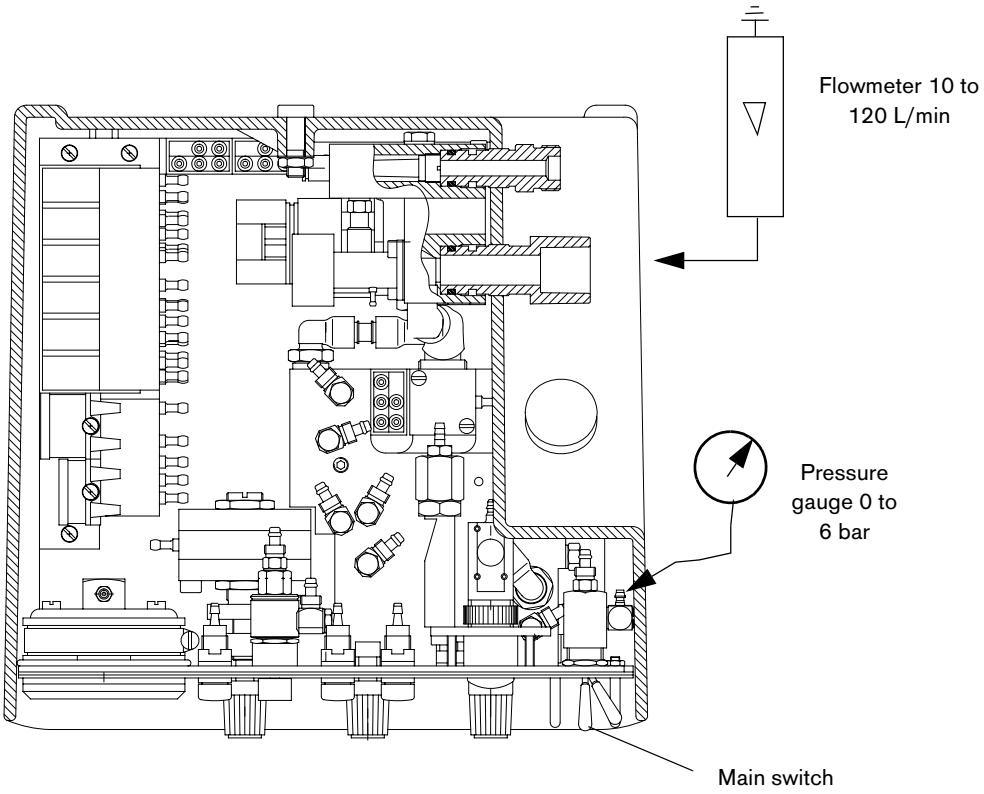

Figure 5 Oxylog 1000 with test set-up: Testing the supply pressure

- Set the frequency selector (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) to full right.
- Set the ventilation pressure (Paw) to approx. 60 mbar (hPa).
- Set the Air Mix/No Air Mix selector switch to „No Air Mix“.
- Set the main switch of the Oxylog 1000 to „I“.

With a flow of approx. 55 L/min (indicated on the flowmeter) the connected pressure gauge shows a pressure of approx. 1.5 bar.

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If the measured pressure is not 1.5 bar, adjust the pressure regulator as follows:

- Release the adjusting ring of the pressure reducer by pulling the ring out.
- Turn the adjusting ring clockwise to increase the downstream pressure of the pressure regulator, or counter-clockwise to reduce the pressure.
- After setting the correct downstream pressure, press the adjusting ring of the pressure regulator down to prevent the downstream pressure being unintentionally altered.
- Set the main switch of the Oxylog 1000 to „O“.
- Detach the hose from the pressure gauge and re-connect it to the connection socket of the main switch.
- Check that there is no leakage in the hose system of the Oxylog 1000.
- Install the drawer unit in the reverse sequence into the housing of the Oxylog 1000.

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Schematics and Diagrams

1 Flow chart of the Oxylog 1000 (old)

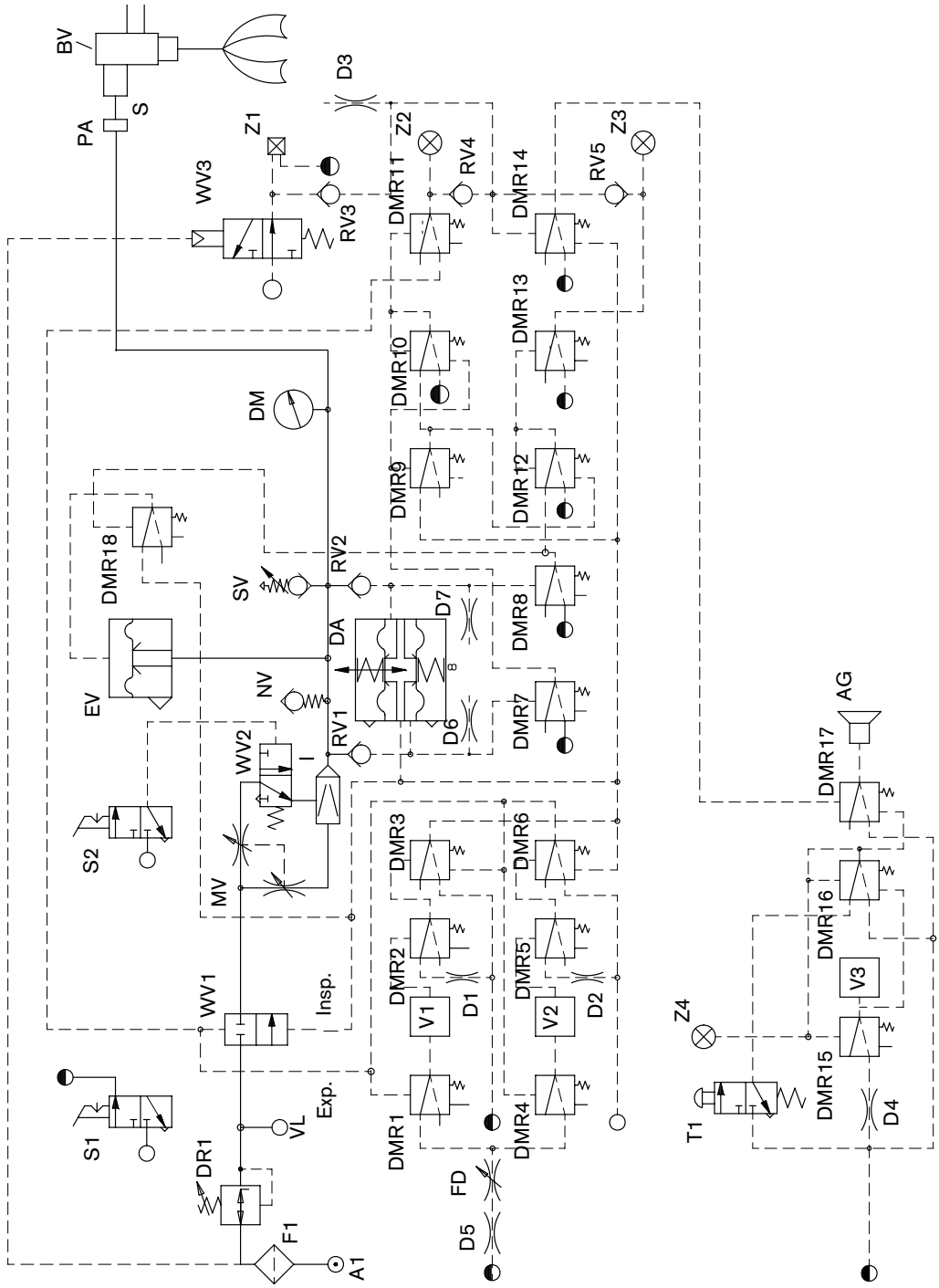

Figure 1 Flow chart of the Oxylog 1000 (old)

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Table 1 Key to flow chart (old)

A1	Compressed-gas connection
BV	Ventilation valve
D1 to D7	Restrictor
DM	Pressure gauge
DMR1 to DMR18	3/2-way valve
DR	Pressure regulator
EV	Vent valve
F1	Filter
FD	Frequency control valve
I	Injector
AG	Alarm generator
MV	Minute volume control valve
NV	Emergency air valve
PA	Patient connection
RV1 to RV5	Non-return valve
S1	ON/OFF switch
S2	Air Mix/No Air Mix Selector
S	Hose system
SV	Safety valve
T1	Pushbutton valve
V1 to V3	Volume
VL	Manifold
WV1	2/2-way valve (changeover valve)
WV2	3/2-way valve
WV3	Supply pressure switching valve
Z1 to Z4	Indicator

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2 Flow chart of the Oxylog 1000 (new)

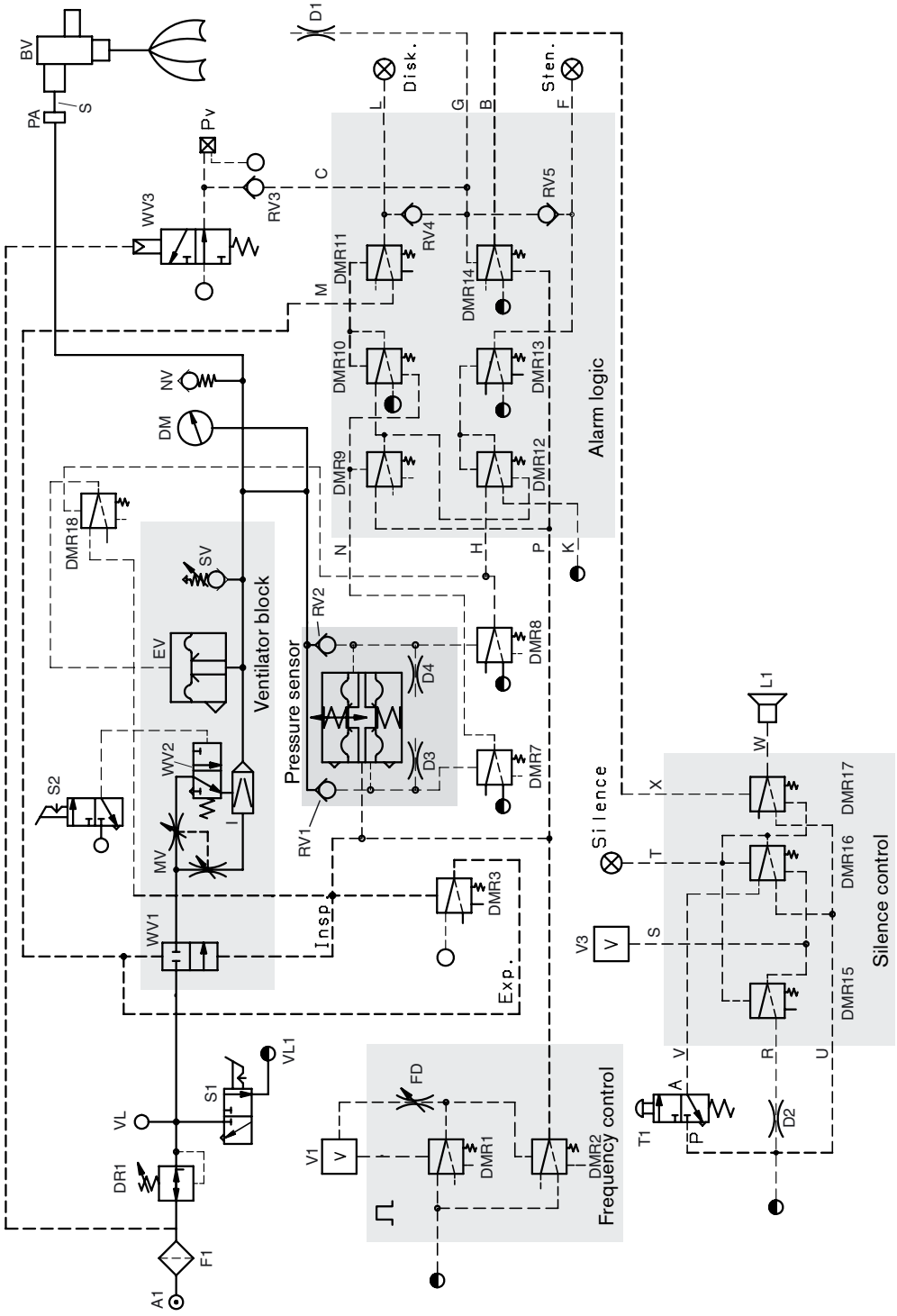

Figure 2 Flow chart of the Oxylog 1000 (new)

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Table 2 Key to flow chart (new)

A1	Compressed-gas connection
BV	Ventilation valve
D1 to D4	Restrictor
DM	Pressure gauge
DMR1 to DMR18	3/2-way valve
DR	Pressure regulator
EV	Vent valve
F1	Filter
FD	Frequency control valve
I	Injector
L1	Alarm generator
MV	Minute volume control valve
NV	Emergency air valve
PA	Patient connection
RV1 to RV5	Non-return valve
S1	ON/OFF switch
S2	Air Mix/No Air Mix Selector
S	Hose system
SV	Safety valve
T1	Pushbutton valve
V1	Volume
VL	Manifold
WV1	2/2-way valve (changeover valve)
WV2	3/2-way valve
WV3	Supply pressure switching valve
Pv, Disk., Sten., Silence	Indicator

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3 Tubing Diagram of the Oxylog 1000 (old)

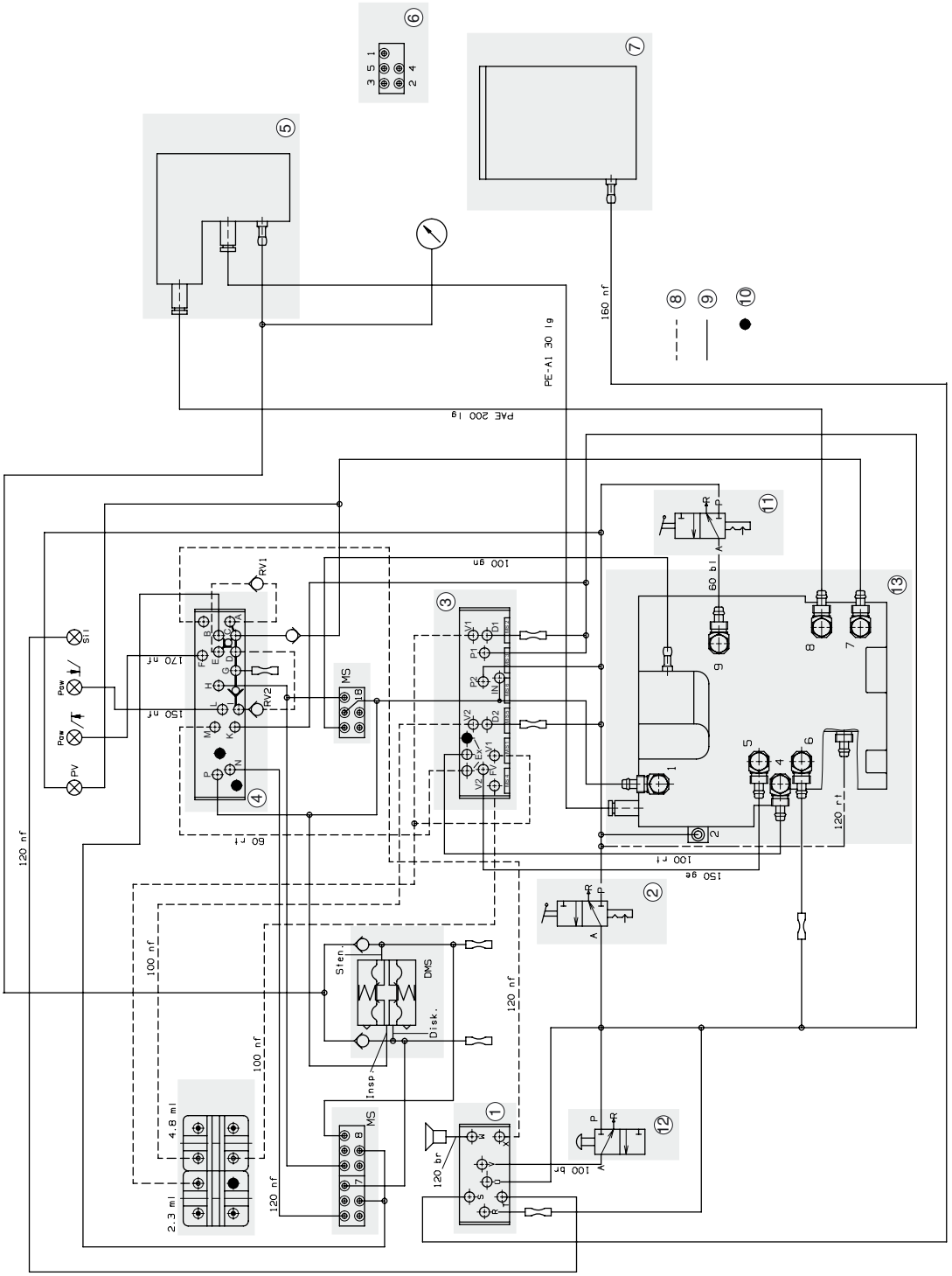

Figure 3 Tubing diagram of the Oxylog 1000 (old)

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Table 3 Key to the tubing diagram of the Oxylog 1000 (old)

(1)	Silence control
(2)	ON/OFF switch
(3)	Frequency control
(4)	Alarm logic
(5)	Patient block
(6)	Microswitch pin configuration
(7)	Volume
(8)	Pre-tubing
(9)	Tubing for final assembly on total unit
(10)	Plug
(11)	Air Mix/No Air Mix selector
(12)	Pushbutton valve (silence)
(13)	Operating block

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4 Tubing Diagram of the Oxylog 1000 (new)

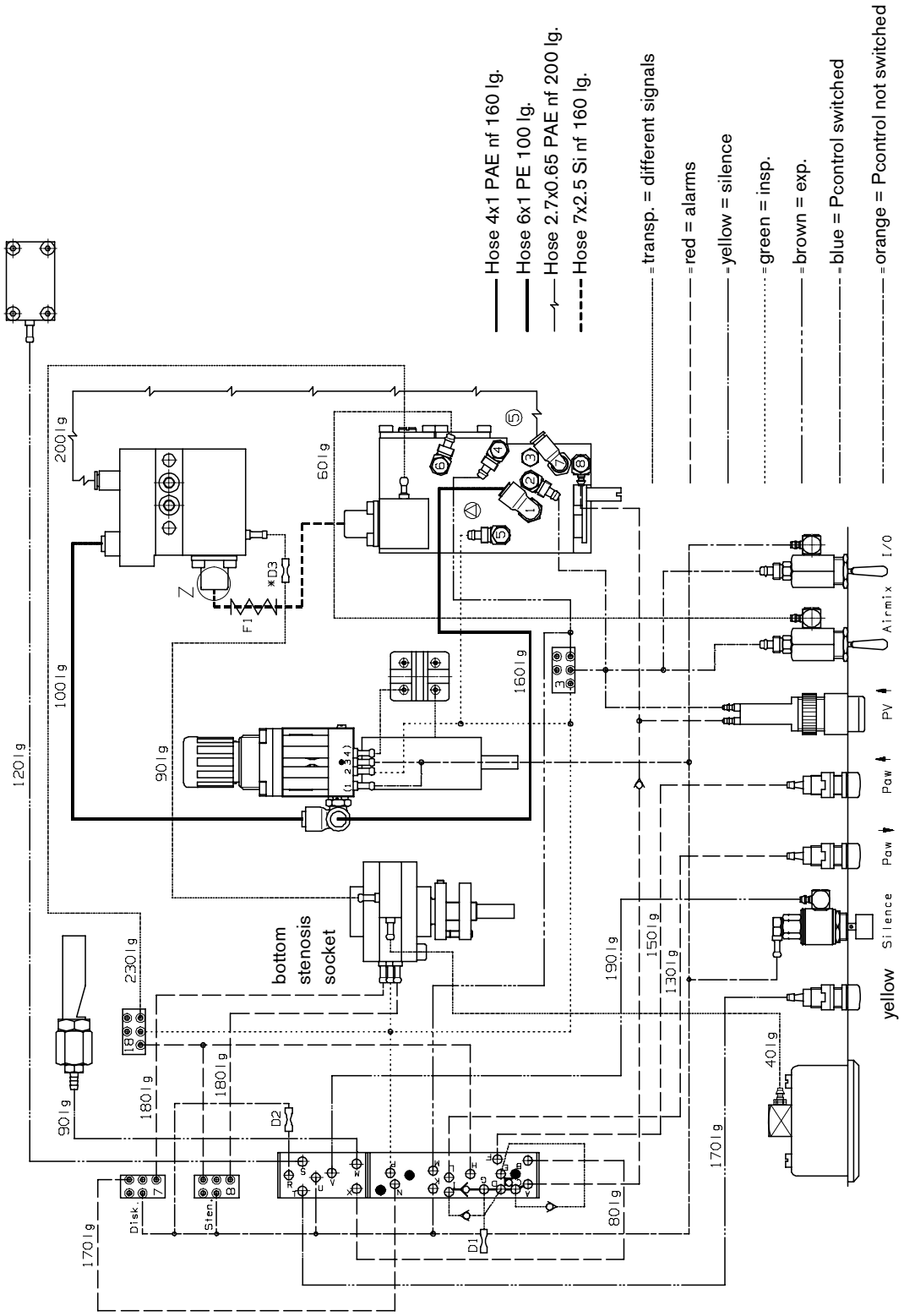

Figure 4 Tubing diagram of the Oxylog 1000 (new)

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Annex

Parts catalog

Test List

Dräger medical
A Dräger and Siemens Company

Parts catalog

Oxylog 1000

Revision: 2006-03

5503.400

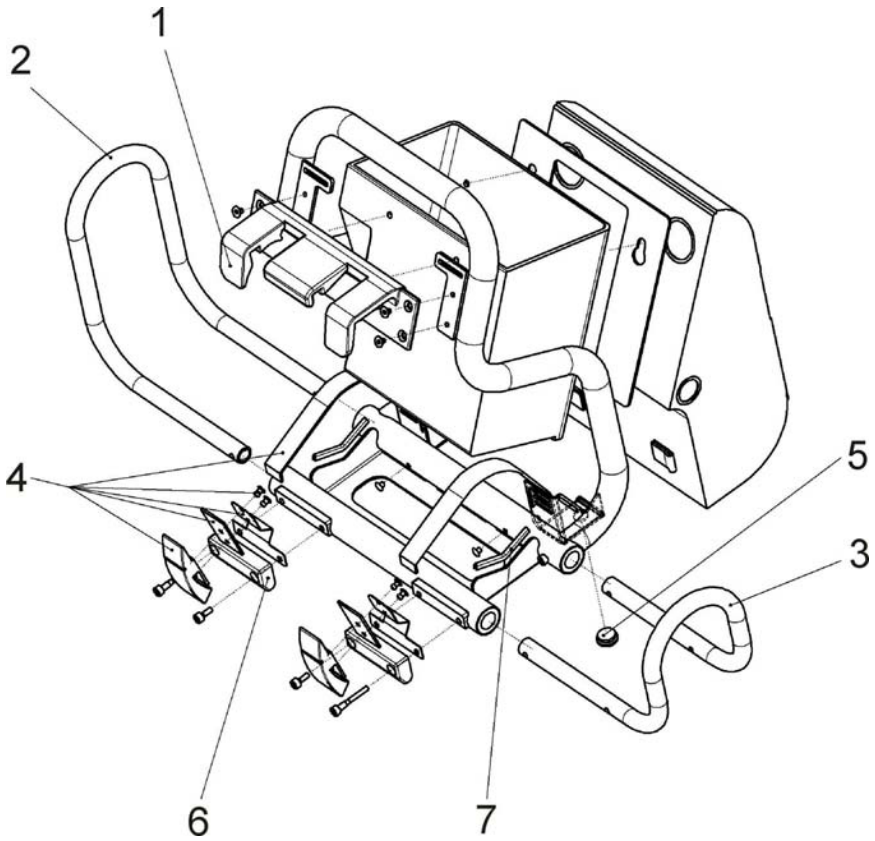
Because you care

Item No.	Part No.	Description	Qty.	Qty. unit	Remark
	5703300	Caddy	1.000	St	

Items that are shown in the illustration but are not listed below the illustration are not available as spare parts

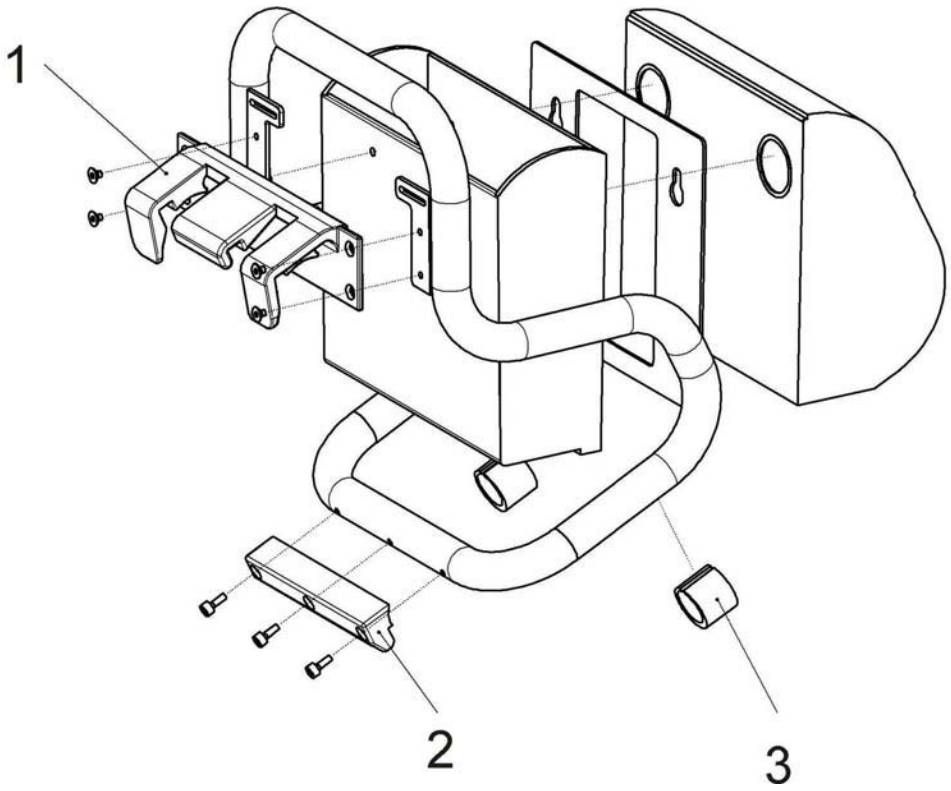
Item No.	Part No.	Description	Qty.	Qty. unit	Remark
1	5703303	BAG OXYLOG 1000 FOR CADDY	1.000	St	
2	5703304	BAG OXYLOG 2000 FOR CADDY	1.000	St	
3	5703305	Bag for CompactCaddy	1.000	St	
4	5703306	PROTECTION COVER	1.000	St	
5	5703307	Carrying Belt	1.000	St	
6	5704216	All-round Wall Holder	1.000	St	
7	5704218	Wall Holder Adaptation Plate	1.000	St	
8	5704217	Quick Power Connector	1.000	St	

Items that are shown in the illustration but are not listed below the illustration are not available as spare parts



Item No.	Part No.	Description	Qty.	Qty. unit	Remark
1	5703310	CLAW_FOR_CADDY	1.000	St	
2	5703329	PROTECTION BAR HIGH FOR CADDY	1.000	St	
3	5703328	PROTECTION BAR LOW FOR CADDY	1.000	St	
4	5703341	CYLINDER FIXATION SET	1.000	St	
5	5703336	PROTECTION FOOT CADDY	1.000	St	
6	5703340	GUIDING RAIL SET FOR CADDY	1.000	St	
7	5703367	PROTECTION STRIP CADDY	1.000	St	

Items that are shown in the illustration but are not listed below the illustration are not available as spare parts



Item No.	Part No.	Description	Qty.	Qty. unit	Remark
1	5703310	CLAW_FOR_CADDY	1.000	St	
2	5703333	GUIDING RAIL FOR COMPACTCADDY	1.000	St	
3	5703335	PROTECTION FOOT Compact CADDY	1.000	St	

Items that are shown in the illustration but are not listed below the illustration are not available as spare parts

Assembly	Description	Part No.
Accessories/Consumables		
	Alduk I O2-DM G3/4	2M86631
	Alduk I O2-DM Pin Index	2M86677
	Alduk II O2-DM G3/4	2M86632
	Alduk II O2-DM Pin Index	2M86678
	All-round Wall Holder	5704216
	Bag for CompactCaddy	5703305
	BAG OXYLOG 1000 FOR CADDY	5703303
	BAG OXYLOG 2000 FOR CADDY	5703304
	Breathing hose 150 cm	2M86511
	Carrying Belt	5703307
	COVER	2M86786
	DIAPHRAGM	8403552
	PROTECTION COVER	5703306
	Quick Power Connector	5704217
	VALVE BOX	2M86785
	Wall Holder Adaptation Plate	5704218
Caddy		
	CLAW_FOR_CADDY	5703310
	CYLINDER FIXATION SET	5703341
	GUIDING RAIL SET FOR CADDY	5703340
	PROTECTION BAR HIGH FOR CADDY	5703329
	PROTECTION BAR LOW FOR CADDY	5703328
	PROTECTION FOOT CADDY	5703336
	PROTECTION STRIP CADDY	5703367
CompactCaddy		
	CLAW_FOR_CADDY	5703310
	GUIDING RAIL FOR COMPACTCADDY	5703333
	PROTECTION FOOT Compact CADDY	5703335
Instructions for Use		
	GA Oxylog 1000 DE	9029059
	GA OXYLOG 1000 EN	9029060
Manual		
	IfU Caddy und CompactCaddy me	9038011
Product concerned		
	Caddy	5703300
Products concerned		
	OXYLOG 1000	2M85780

Test List

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1 Information About the Test Lists

NOTE
Some function blocks of Oxylog 1000 have been modified. Therefore, this Test List is divided in two parts. Test List 1 (Oxylog 1000 "old") and Test List 2 (Oxylog 1000 "new"). Oxylog 1000 "new" can be recognized by its serial number (ARNL — 0101 through 0120 and all units from serial number ARNN — 0001). Before using the Test List, check which type of unit you have and select the correct part of the Test List.

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Test List 1 (Oxylog 1000 „old“)

Oxylog 1000

Serial no.: _____

Device location: _____

Folder no.:
5503.400

Issue:
02.99

This test list can be processed with standard commercially available test aids and tools, but does not replace the inspections and maintenance work carried out by the manufacturer.

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Test list equipment

Test equipment	Measuring range	Accuracy class
Pressure gauge	–30 to +120 mbar (hPa)	1.6
Pressure gauge	0 to 6 bar	1.6
Flowmeter	10 to 120 L/min	1.6
Flowmeter	2 to 10 L/min	1.6
Test pressure reducer		
Hoses, div.		
T-piece		
Test lung		
O2 analyser, e.g. Oxydig		
Adjustable resistor		
Oxygen measurement test adapter		
Stopwatch		
Hose clamp		
Sealing plug		

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1 Checking general condition of Oxylog 1000

- Check that the accompanying documents are with the Oxylog 1000. ☐
- Check the following components for damage:

– Housing of the Oxylog 1000 ☐

– Ventilation pressure gauge ☐

– Ventilation hose ☐

– Ventilation valve ☐

– Compressed gas connecting hose 1.5 m ☐

– Compressed gas connecting hose 3 m ☐

2 Function tests

Carry out the following function tests with an O_2 test pressure regulator or with the central compressed gas supply. The supply pressure of the Oxylog 1000 is 2.7 bar to 6 bar.

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2.1 Testing supply pressure and safety valve

- Set the main switch of the Oxylog 1000 to „0“.
- Detach the compressed gas connector from the socket on the central supply/compressed gas cylinder.
- Unscrew the compressed gas connecting hose from the connection socket (compressed gas supply).
- Remove the drawer unit of the Oxylog 1000 by removing the screws with washers (1).
- Remove the screws (2).
- Withdraw the connection sockets (ventilation hose and compressed gas supply).
- Withdraw the drawer unit from the housing.

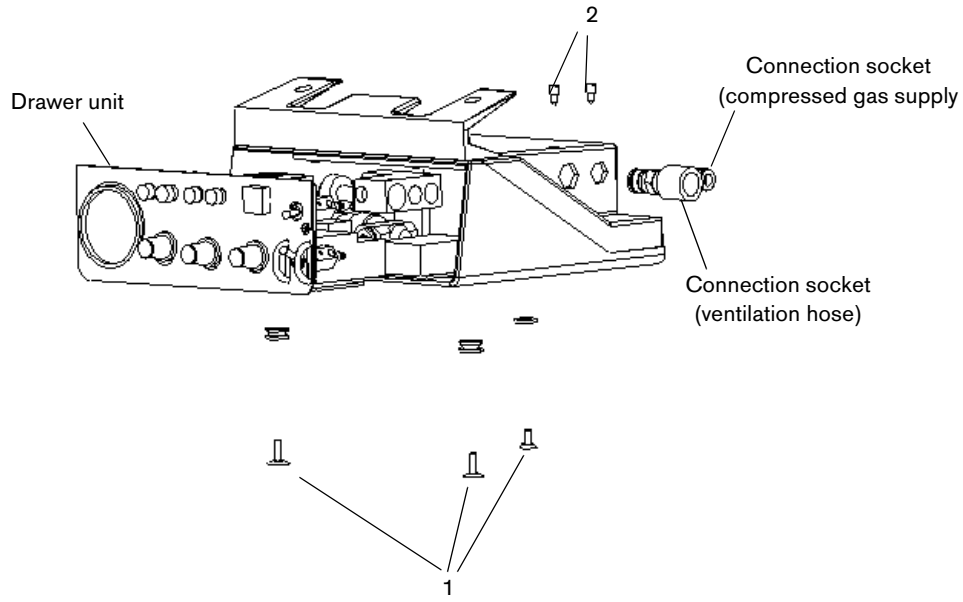

Fig. 1: View of the Oxylog 1000: Removing the drawer unit

- Attach the connection socket (compressed gas supply) by the screw to the drawer unit of the Oxylog 1000.
- Attach the connection socket (ventilation hose) by the screw to the drawer unit of the Oxylog 1000.
- Screw the compressed gas connecting hose onto the Oxylog 1000.

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This test list can be processed with standard commercially available test aids and tools, but does not replace the inspections and maintenance work carried out by the manufacturer.

- Connect the compressed gas connector to the socket of the central supply/compressed gas cylinder.
- Detach the hose from the main switch and connect the pressure gauge (measuring range: 0 to 6 bar) to the connection socket of the **main switch**; see following illustration.
- Connect the ventilation hose with flowmeter (measuring range: 10 to 120 L/min) to the connection socket (ventilation hose).

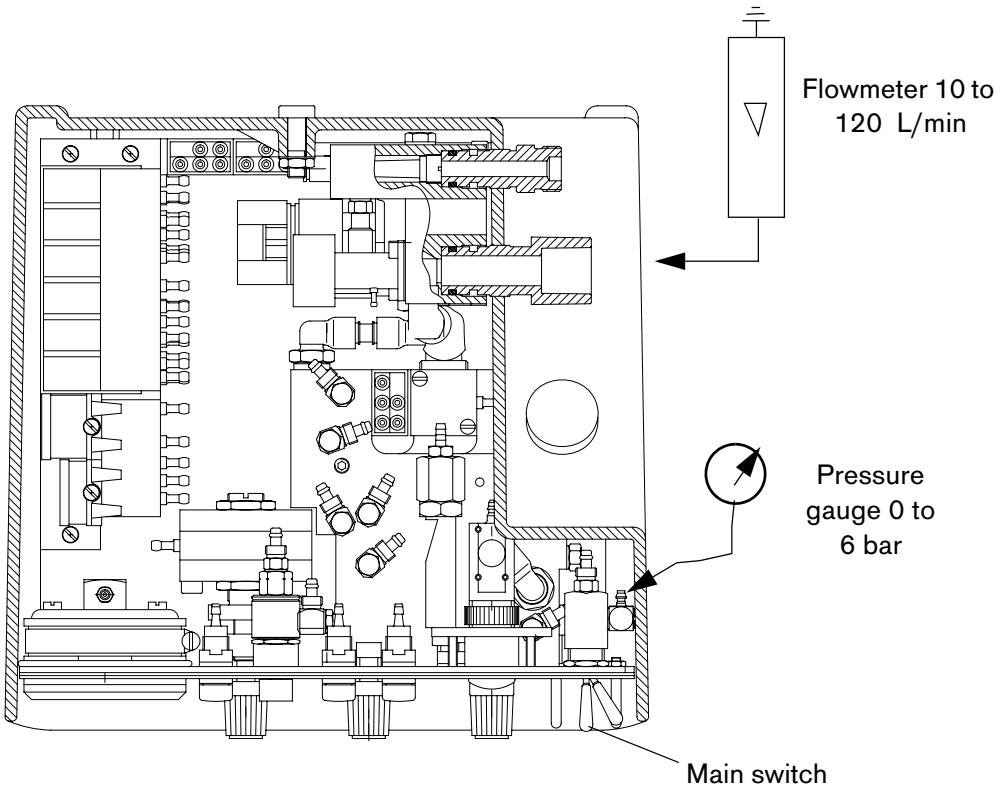

Fig. 2: Oxylog 1000 with test set-up: Testing the supply pressure

- Set the frequency selector (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) to full right.
- Set the ventilation pressure (Paw) to approx. 60 mbar (hPa).
- Set the Air Mix/No Air Mix selector switch to „No Air Mix“.
- Set the main switch of the Oxylog 1000 to „I“.

With a flow of approx. 55 L/min (indicated on the flowmeter) the connected pressure gauge shows a pressure of approx. 1.5 bar. ☐

- Set the main switch of the Oxylog 1000 to „0“.

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- Detach the hose from the pressure gauge and re-connect it to the connection socket of the main switch.
- Close off the hose to the double-membrane relay with the hose clamp; see following illustration.

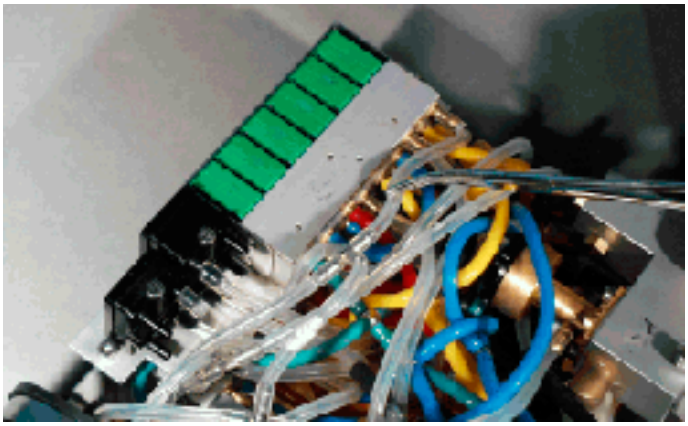

Fig. 3: View of the drawer unit of the Oxylog 1000: Clamping the hose

- Set the minute volume adjuster (MV) to full right.
- Hold the connection socket (ventilation hose) closed with a plug or your thumb.
- Set the main switch of the Oxylog 1000 to „I“.

The ventilation pressure of the Oxylog 1000 is less than or equal to 80 mbar (hPa) (read off ventilation pressure from pressure gauge of Oxylog 1000).

- Set the main switch of the Oxylog 1000 to „O“.
- Detach the compressed gas connector from the socket on the central supply/compressed gas cylinder.
- Unscrew the compressed gas connecting hose from the connection socket (compressed gas supply).
- Remove the socket-head cap screw of the connection socket (compressed gas supply) and withdraw the connection socket.
- Remove the socket-head cap screw of the connection socket (ventilation hose) and withdraw the connection socket.
- Push the Oxylog 1000 into the drawer unit.
- Mount the Oxylog 1000 drawer unit in the housing.

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2.2 Testing vent valve

CAUTION
To check the vent valve, do not connect the compressed gas supply to the connection socket for compressed gas supply and switch off the Oxylog 1000 at the main switch!

Test set-up:

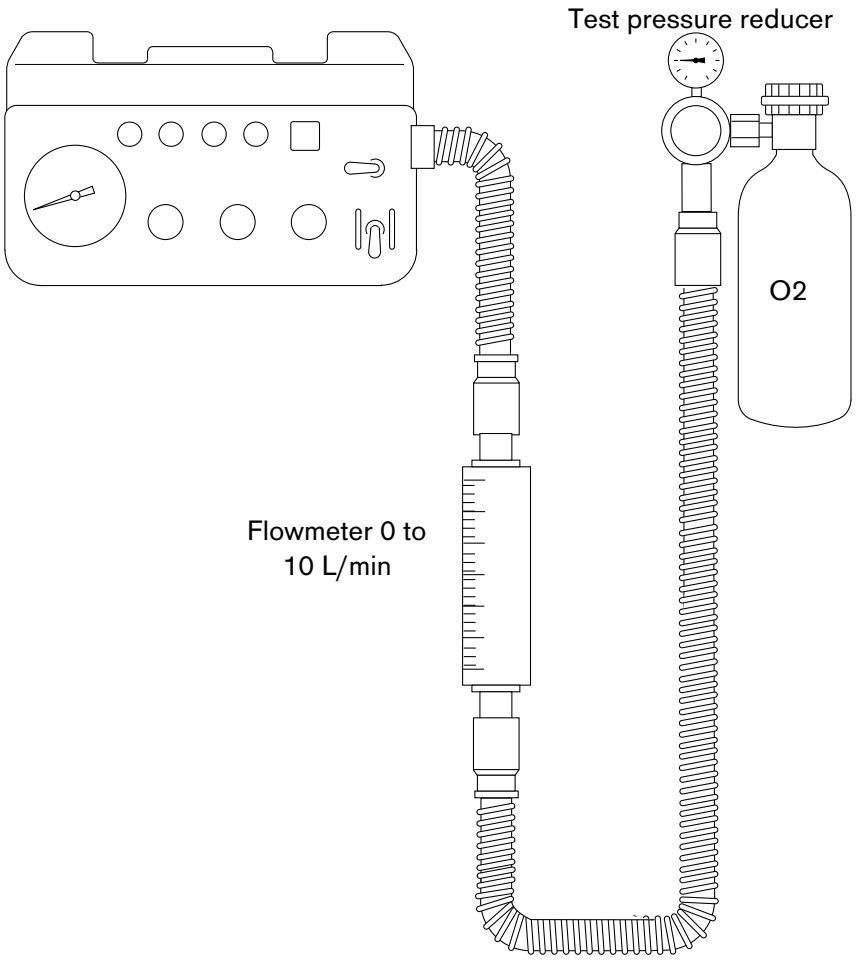

Fig. 4: Oxylog 1000 with test set-up: Testing the vent valve

- With the test pressure reducer feed a flow of 10 L/min into the connection socket for the ventilation hose.

The maximum pressure rise is 8 mbar (hPa) (read off the pressure rise from the pressure gauge of the Oxylog 1000).

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2.3 Testing I:E ratio

- Set the frequency selector (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) to 10 L/min.
- Turn the maximum ventilation pressure (Paw) to full right.
- Set the Air Mix/No Air Mix selector switch to „No Air Mix“.
- Switch on the Oxylog 1000 at the main switch.
- Use a stopwatch to determine the I:E ratio.

The I:E ratio is 0.66 (0.71 to 0.58). ☐

Formula to determine the I:E ratio:

$$\text{I:E ratio} = \frac{\text{Inspiratory time}}{\text{Expiratory time}}$$

2.4 Testing ventilatory frequency

- Turn the maximum ventilation pressure (Paw) to full right.
- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency selector (Freq.) variably; see following table.
- Use a stopwatch to determine the ventilatory frequency.

Frequency selector (1/min)	Calculated value (1/min)
Full left	3 to 8
35	32 to 45

☐

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2.5 Testing minute volume

Test set-up:

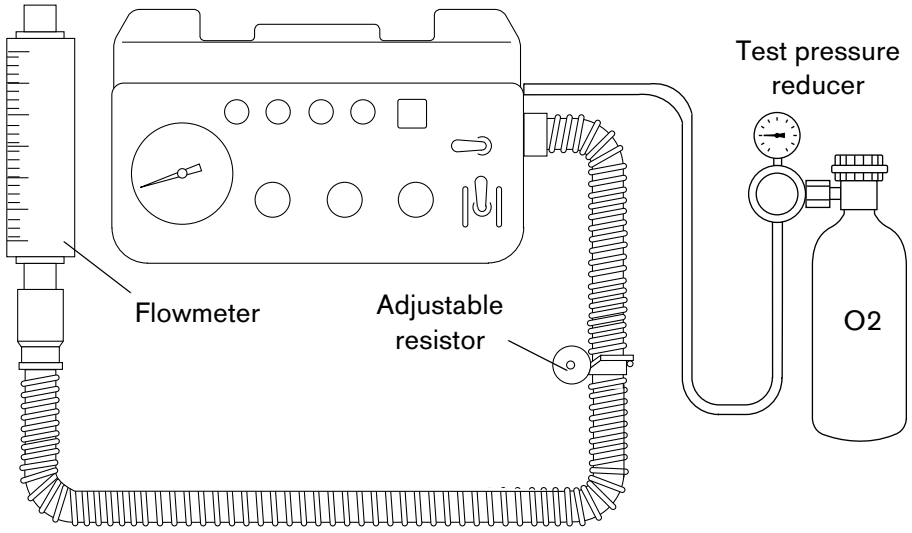

Fig. 5: Oxylog 1000 with test set-up: Testing the minute volume

- Set the ventilation pressure selector (Paw) to full right.
- Set the frequency selector (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) variably; see following table.
- Set the required „compensation pressure“ with the adjustable resistor during the inhalation phase. (Read off the compensation pressure from the pressure gauge of the Oxylog 1000).
- Determine the minute volume with and without enrichment of the ambient air; see following table.

Minute volume adjuster	Flow	Compensation pressure setting (mbar/hPa)	Selector switch set to No Air Mix	Selector switch set to Air Mix
3 L/min	7.5	approx. 2	7.5 (±1 L/min)	7.5 (±0,6L/min)
20 L/min	50	approx. 20	49 (±6.6 L/min)	49 (±7 L/min)

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2.6 Testing alarm logic and silence control

2.6.1 Testing supply pressure alarm (Pv)

Test set-up:

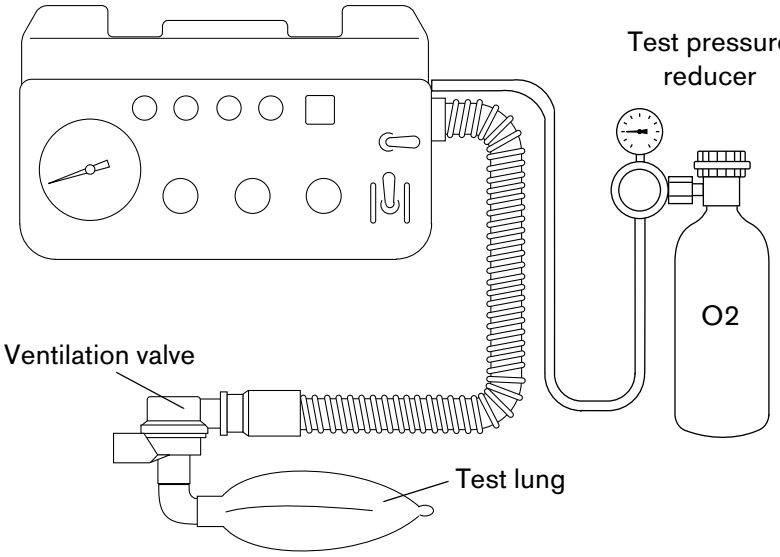

Fig. 6: Oxylog 1000 with test set-up to test the supply pressure alarm

- Set the minute volume adjuster (MV) to approx. 10 L/min.
- Set the frequency selector (Freq.) to 10 1/min.
- Set the ventilation pressure selector (Paw) to approx. 40 mbar (hPa).
- Set the Air Mix/No Air Mix selector switch to „No Air Mix“.
- Slowly close the pressure regulator of the test pressure reducer.
- Observe the pressure gauge of the test pressure reducer.

When the downstream pressure has reached a value of 2.2 bar to 1.9 bar, the „Pv“ indicator lights up red. The supply pressure is inadequate. ☐

- Slowly open the pressure regulator of the test pressure reducer.

When the downstream pressure has reached a value of 2.3 bar to 2.5 bar, the „Pv“ indicator lights up green. The supply pressure is adequate. ☐

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2.6.2 Testing disconnect alarm

Test set-up:

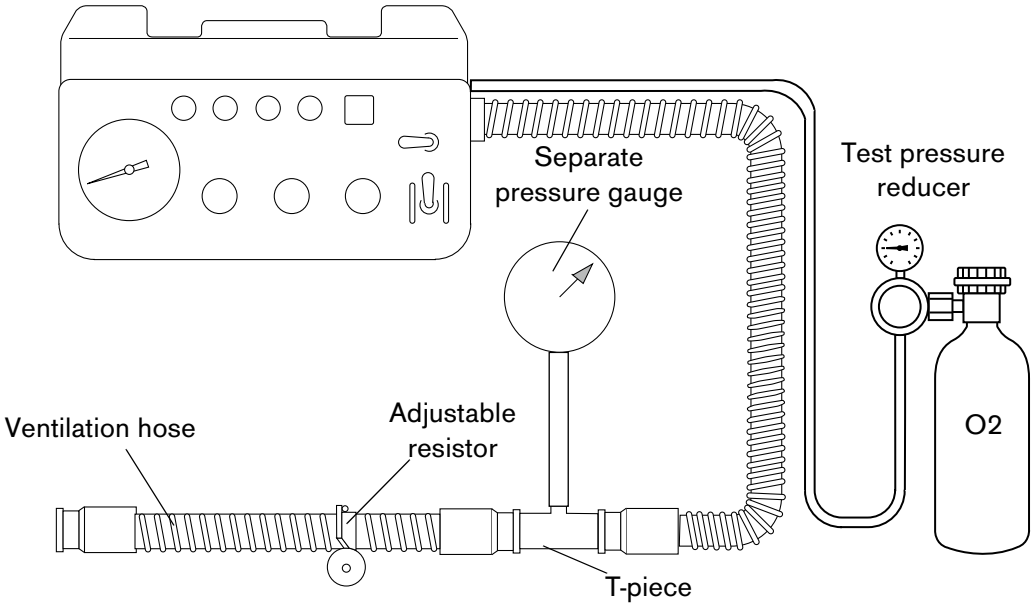

Fig. 7: Oxylog 1000 with test set-up: Testing the disconnect alarm

- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency selector (Freq.) to 10 1/min.
- Set the Air Mix/No Air Mix selector switch to „Air Mix“.
- Set the ventilation pressure selector (Paw) to full right.
- During the inhalation phase set a ventilation pressure of approx. 30 mbar (hPa) with the adjustable resistor. (Note: Read off the ventilation pressure from the pressure gauge of the Oxylog 1000).
- Slowly open the adjustable resistor during the inhalation phase until the „rot“ indicator (Paw low) lights up.

The „Paw low“ switching point is at approx. 10 mbar (hPa). (Read off the switching point from the pressure gauge of the Oxylog 1000 and from the separate pressure gauge).

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2.6.3 Testing stenosis alarm

Test set-up:

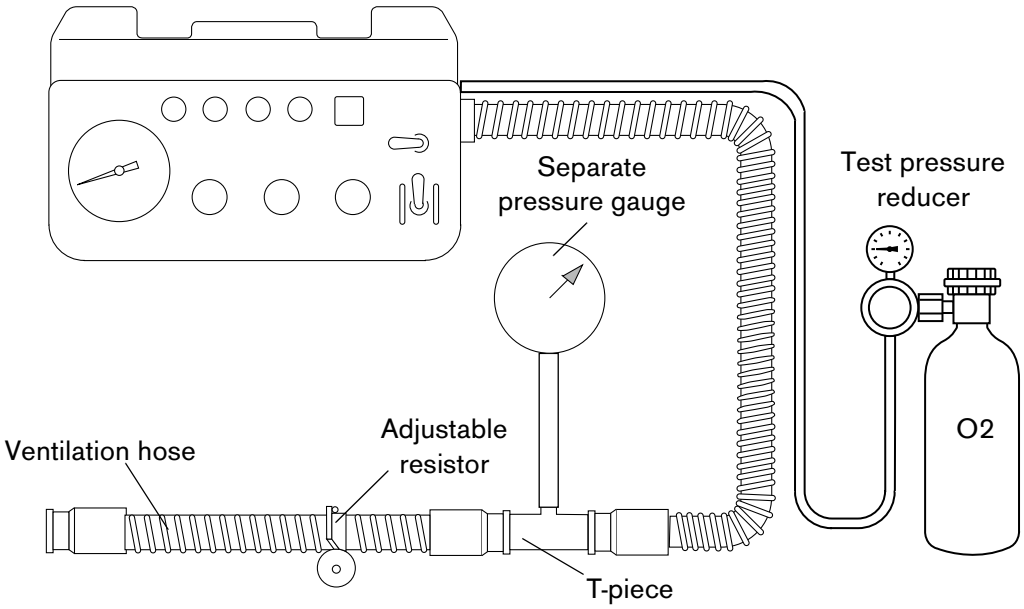

Fig. 8: Oxylog 1000 with test set-up: Testing the stenosis alarm

- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency selector (Freq.) to 10 1/min.
- Set the Air Mix/No Air Mix selector switch to „Air Mix“.
- Turn the ventilation pressure selector (Paw) to full right.
- During the inhalation phase set a ventilation pressure of approx. 30 mbar (hPa) with the adjustable resistor. (Note: Read off the ventilation pressure from the pressure gauge of the Oxylog 1000).
- During the inhalation phase slowly close off the ventilation hose further with the adjustable resistor until the „red“ indicator (Paw high) lights up.

The „Paw high“ switching point is at approx. 55 mbar (hPa). (Read off switching point from pressure gauge of Oxylog 1000 and from separate pressure gauge).

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2.6.4 Testing alarm tone muting (Silence)

Test set-up:

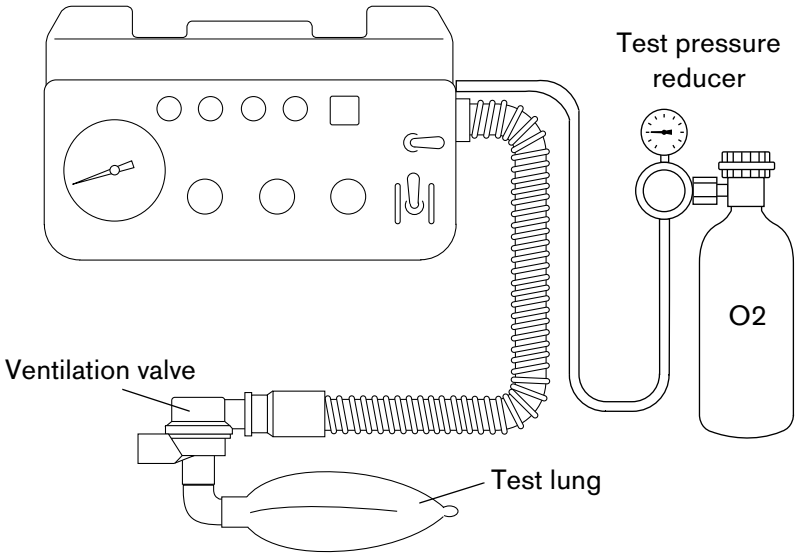

Fig. 9: Oxylog 1000 with test set-up: Testing the muting (Silence)

- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency selector (Freq.) to 10 1/min.
- Detach the test lung from the ventilation valve.

The Oxylog 1000 emits an audible alarm. The „Paw low“ indicator lights up red. ☐

- During the inhalation phase press the „Alarm silence“ key.

The audible alarm stops. The „Alarm silence“ indicator lights up yellow. ☐

After a maximum of 2 minutes the audible alarm sounds again. ☐

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2.7 Testing O_2 concentration

Test set-up:

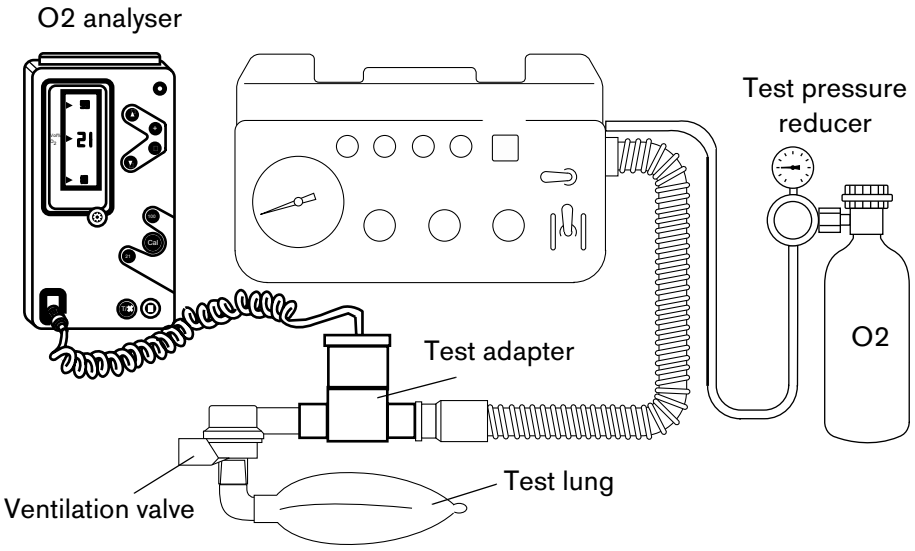

Fig. 10: Oxylog 1000 with test set-up: Testing the O_2 concentration

- Set the frequency selector (Freq.) to 10 1/min.
- Set the ventilation pressure (Paw) to full right.
- Set the Air Mix/No Air Mix selector switch to „Air Mix“.
- Set the minute volume adjuster (MV) to 7 L/min.

The Oxydig shows 55 Vol.%O_2 (± 17 Vol.%O_2) on the display. ☐

- Set the minute volume adjuster (MV) to 20 L/min.

The Oxydig shows 55 Vol.%O_2 (± 17 Vol.%O_2) on the display. ☐

- Set the Air Mix/No Air Mix selector switch to „No Air Mix“.

The Oxydig shows 100 Vol.%O_2 on the display. ☐

- Switch off the Oxylog 1000 at the main switch.

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3 Deliver the Oxylog 1000 to the operators ready for operation.

4 Tested

Date:_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Name:_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

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Test List 2 (Oxylog 1000 „new“)

Oxylog 1000

Serial no.: _____

Installation site: _____

File no.:
5503.400

Edition:
02/2000

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Required Test Equipment

Test equipment	Range	Accuracy class
Pressure gauge	–30 to +120 mbar (hPa)	1.6
Pressure gauge	0 to 6 bar	1.6
Flowmeter	10 to 120 L/min	1.6
Flowmeter	2 to 10 L/min	1.6
Test pressure regulator		
Hoses, various		
T-piece		
Test lung		
Oxygen analyzer, e.g. Oxydig		
Adjustable restrictor		
Oxygen measurement test adapter		
Stopwatch		
Hose clamp		
Sealing plug		

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1 Checking the General Condition of Oxylog 1000

- Check that all accompanying documents to Oxylog 1000 are available. ☐
- Check the following components for possible damage:

– Housing of Oxylog 1000 ☐

– Ventilation pressure gauge ☐

– Ventilation hose ☐

– Ventilation valve ☐

– Compressed-air connecting hose, 1.5 m ☐

– Compressed-air connecting hose, 3 m ☐

2 Functional Tests

Carry out the following functional tests using an O_2 test pressure regulator or the central gas supply system. The supply pressure of Oxylog 1000 is 2.7 bar to 6 bar.

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2.1 Checking the Supply Pressure and the Safety Valve

- Place the ON/OFF switch of Oxylog 1000 to position "O".
- Disconnect the compressed-gas connector from the socket of the central gas supply system/compressed-gas cylinder.
- Disconnect the ventilation hose from the connecting piece (ventilation hose).
- Unscrew compressed-gas connecting hose from connecting piece (compressed-gas supply).
- To dismount the plug-in unit of Oxylog 1000, remove the screws and washers (1).
- Remove the screws (2).
- Pull out the connecting piece (ventilation hose and compressed-gas supply).
- Pull the plug-in unit out of the housing.

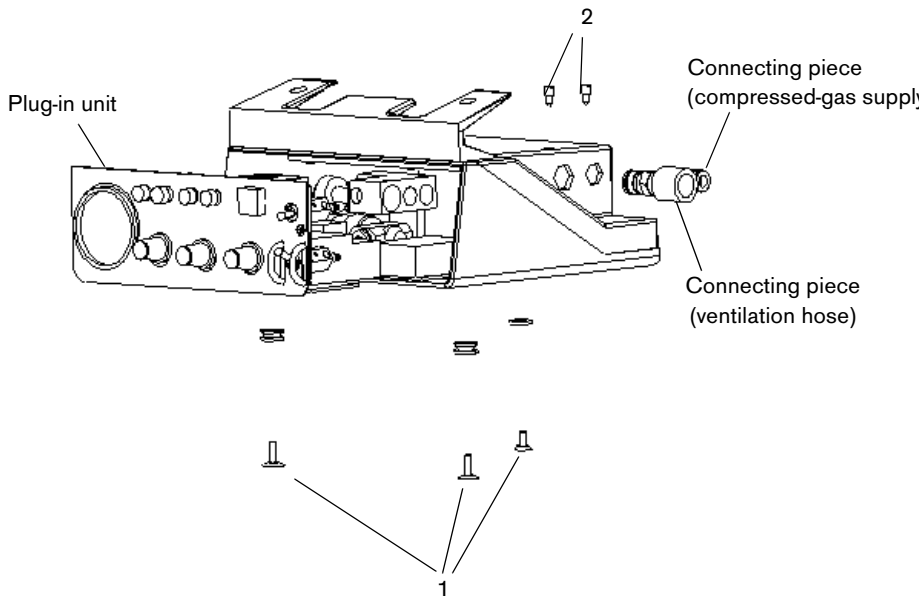

Fig. 1: Right front view of Oxylog 1000: Removing the plug-in unit

- Using the screw, secure the connecting piece (compressed-gas supply) directly to the plug-in unit of Oxylog 1000.
- Using the screw, secure the connecting piece (ventilation hose) directly to the plug-in unit of Oxylog 1000.
- Screw compressed-gas connecting hose on Oxylog 1000.

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- Connect the compressed-gas connector to the socket of the central gas supply system/compressed-gas cylinder.
- Connect a pressure gauge to the right-hand hose of the "Pv" indicator.
- Connect ventilation hose with flowmeter (measuring range: 10 to 120 L/min) to connecting piece (ventilation hose).

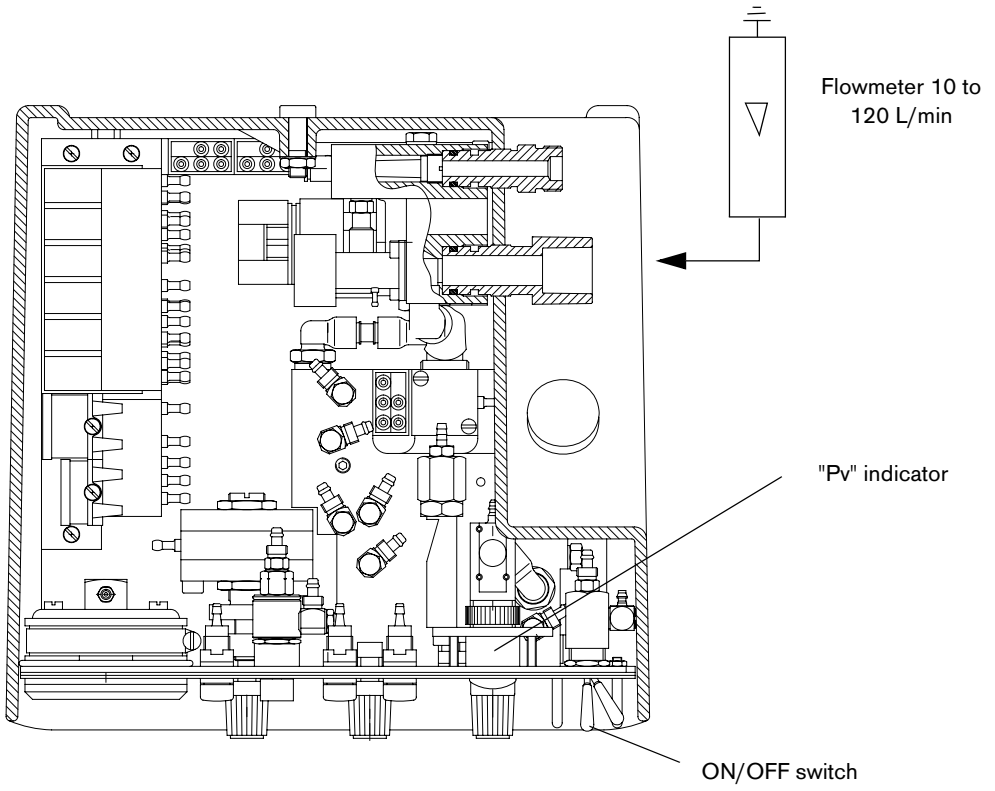

Fig. 2: Oxylog 1000 with test set-up: Checking the supply pressure

- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) to right limit stop.
- Set the airway pressure (Paw) to right end stop.
- Set the Air Mix/ No Air Mix selector to the "No Air Mix" position.
- Place the ON/OFF switch of Oxylog 1000 to position "I".

At a flow of approx. 55 L/min (indicated on the flowmeter) the connected pressure gauge should indicate a pressure of approx. 1.5 bar. ☐

- Place the ON/OFF switch of Oxylog 1000 to position "O".
- Remove the pressure gauge.

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- Using the hose clamp, clamp the transparent hose from the patient block top the dual diaphragm switch.
- Connect the pressure gauge to the patient connection (this seals off the patient connection).
- Switch on the unit.

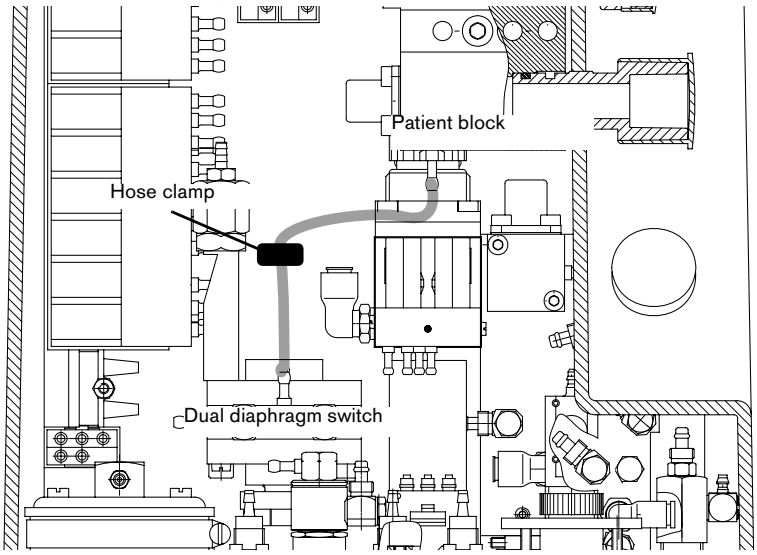

Fig. 3: Checking the safety valve

Reading on the pressure gauge: Pplat = 80 mbar (±10 mbar).
(Peak pressure Pmax <100 mbar)

- Place the ON/OFF switch of Oxylog 1000 to position "O".
- Remove the hose clamp.
- Disconnect the compressed-gas connector from the socket of the central gas supply system/compressed-gas cylinder.
- Unscrew compressed-gas connecting hose from connecting piece (compressed-gas supply).
- Remove the hexagon socket screw from the connecting piece (compressed-gas supply) and pull out the connecting piece.
- Remove the hexagon socket screw from the connecting piece (ventilation hose) and pull out the connecting piece.
- Mount the Oxylog 1000 plug-in unit into the housing.

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2.2 Checking the Vent Valve

CAUTION
To check the vent valve, do no connect the compressed-gas supply to the connecting piece for the compressed-gas supply. Switch off Oxylog 1000 using the ON/OFF switch.

Test set-up:

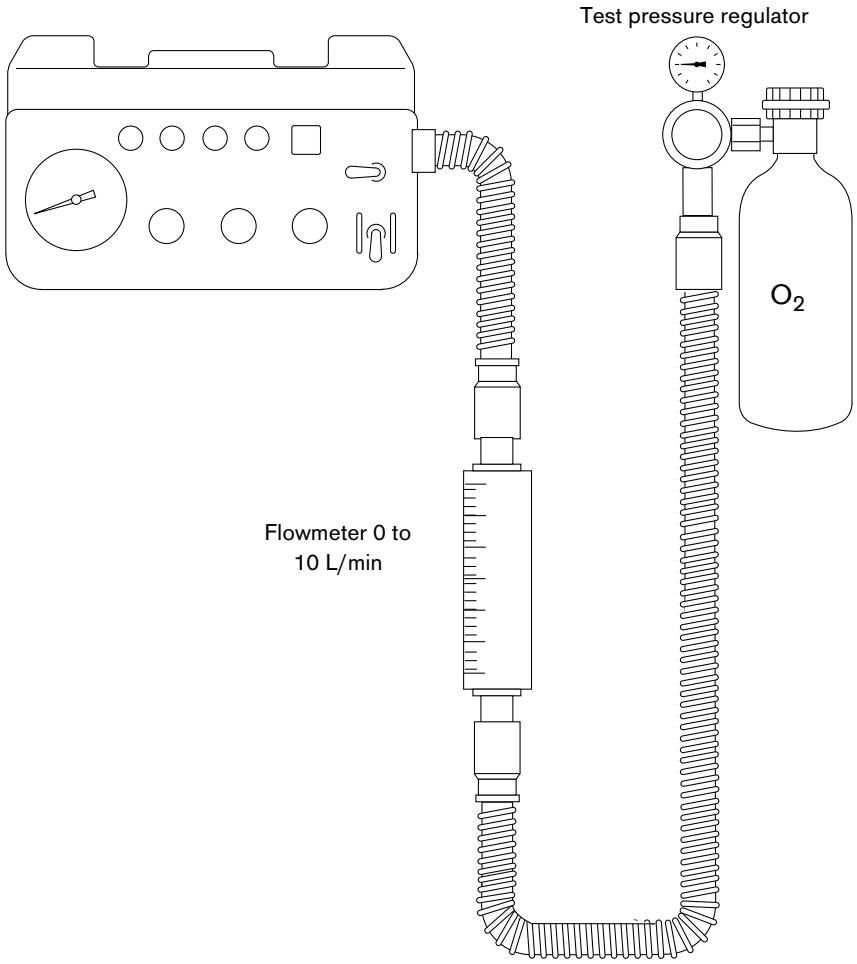

Fig. 4: Oxylog 1000 with test set-up: Checking the vent valve

- Using the test pressure reducer, feed a flow of 10 L/min into the connecting piece of the ventilation hose.

The increase in pressure should not exceed 8 mbar (hPa) (read pressure on pressure gauge of Oxylog 1000).

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2.3 Checking the I:E Ratio

- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) to the blue/brown transition position.
- Set the maximum airway pressure (Paw) to right end stop.
- Set the Air Mix/ No Air Mix selector to the "No Air Mix" position.
- Switch on Oxylog 1000 using the ON/OFF switch.
- Use the stopwatch to measure the I:E ratio.

The I:E ratio should be 0.625 to 0.833. ☐

Equation for determination of the I:E ratio:

$$\text{I:E ratio} = \frac{\text{Inspiratory time}}{\text{Expiratory time}}$$

2.4 Checking the Ventilatory Frequency

- Set the maximum airway pressure (Paw) to right end stop.
- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency adjuster (Freq.) to various steps, see the following table.
- Using the stopwatch, measure the ventilatory frequency.

Frequency adjuster (1/min)	Measured value (1/min)
Left limit stop	2 to 6
Right limit stop	48 to 60

☐

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2.5 Checking the Minute Volume

Test set-up:

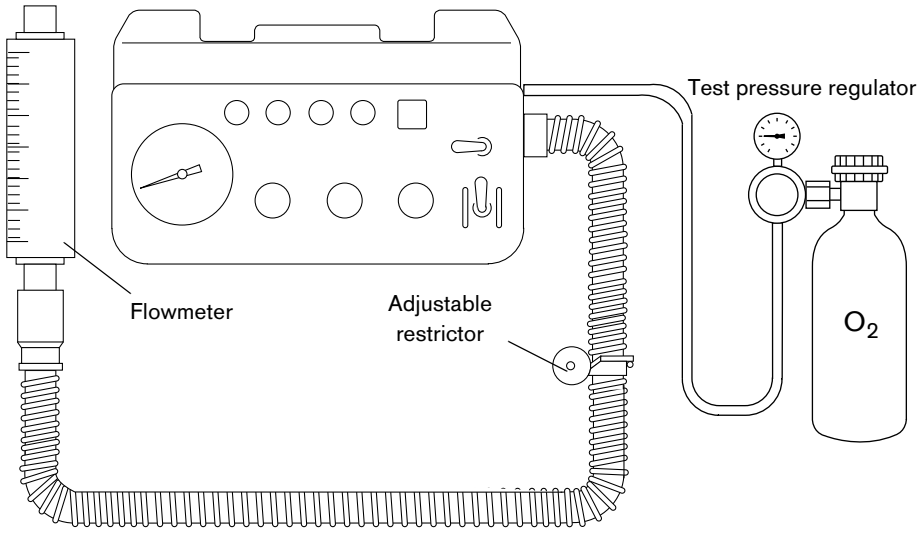

Fig. 5: Oxylog 1000 with test set-up: Checking the minute volume

- Set the airway pressure adjuster (Paw) to right end stop.
- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the minute volume adjuster (MV) to various steps, see the following table.
- Set the required "counterpressure" during the inspiratory phase using the adjustable restrictor. (Read counterpressure on pressure gauge of Oxylog 1000).
- Measure the minute volume with and without ambient-air enrichment, see the following table.

Minute volume adjuster	Flow	Counterpressure setting (mbar/hPa)	Selector in No Air Mix position	Selector in Air Mix position
Minimum	7,5	15 to 40	6 to 9 L/min	–
Minimum	8	no counterpressure	–	6 to 10 L/min
Maximum	50	15 to 40	40 to 60 L/min	–
Maximum	50	no counterpressure	–	40 to 60 L/min

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2.6 Checking Warning Logics and Silence Control

2.6.1 Checking the Supply Pressure Warning (Pv)

Test set-up:

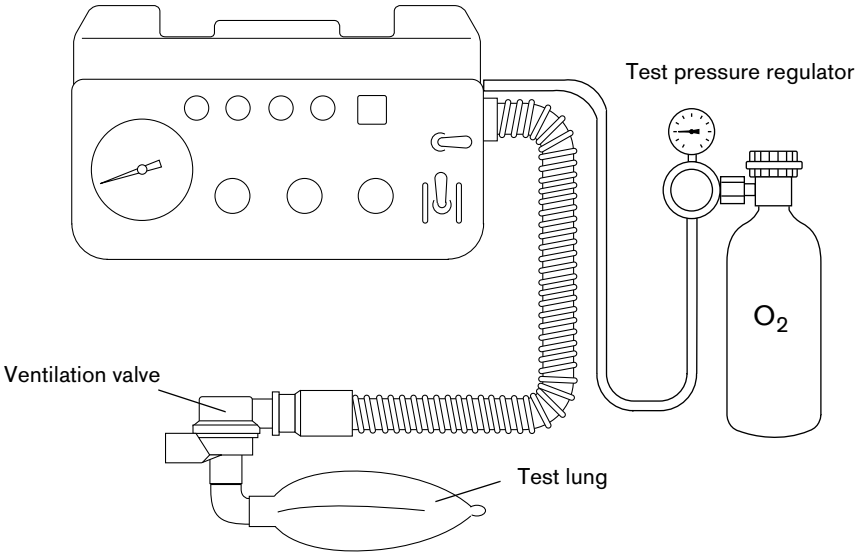

Fig. 6: Oxylog 1000 with test set-up for supply pressure warning check

- Set the minute volume adjuster (MV) to left limit stop.
- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the airway pressure adjuster (Paw) to approx. 40 mbar (hPa).
- Set the Air Mix/ No Air Mix selector to the "No Air Mix" position.
- Slowly close the pressure regulator of the test pressure reducer.
- Watch the pressure gauge of the test pressure reducer.

As soon as the downstream pressure reaches 2.2 bar to 1.8 bar, the "Pv" indicator turns red. The supply pressure is insufficient. ☐

- Slowly open the pressure regulator of the test pressure reducer.

As soon as the downstream pressure reaches 2.3 bar to 2.7 bar, the "Pv" indicator turns green. The supply pressure is sufficient. ☐

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2.6.2 Checking the Disconnect Alarm

Test set-up:

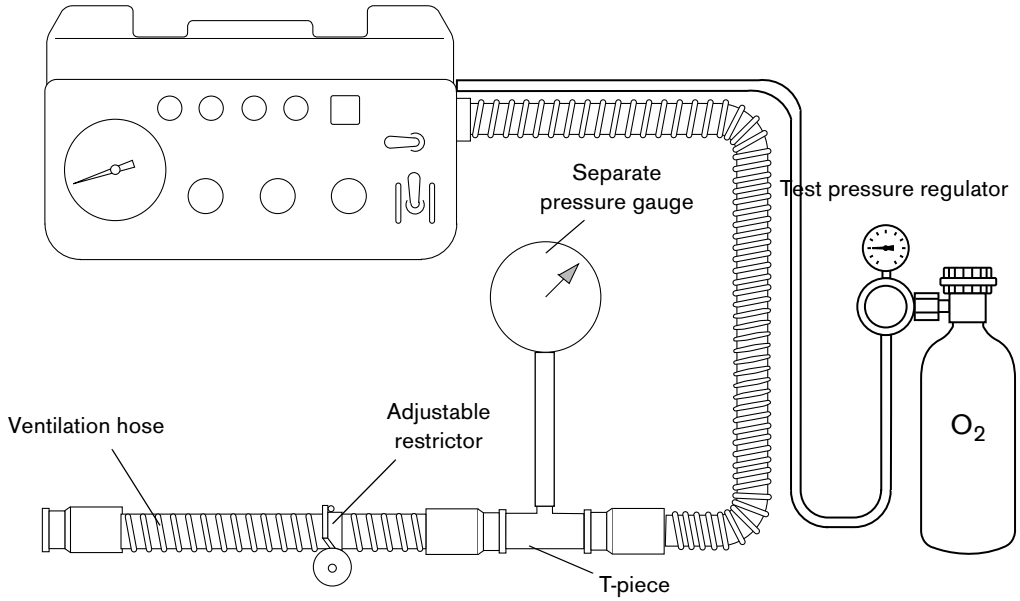

Fig. 7: Oxylog 1000 with test set-up: Checking the disconnect alarm

- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the Air Mix/ No Air Mix selector to the "Air Mix" position.
- Set the airway pressure adjuster (Paw) to right end stop.
- During the inspiratory phase, use the adjustable resistor to set an airway pressure of approx. 30 mbar (hPa) (Note: Read airway pressure on pressure gauge of Oxylog 1000).
- During the inspiratory phase, slowly open the adjustable resistor until the indicator turns red (Paw low).

The "Paw low" switching point is at approx. 10 mbar (hPa) (read the switching point on the pressure gauge of Oxylog 1000 and on the separate pressure gauge).

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2.6.3 Checking the Stenosis Alarm

Test set-up:

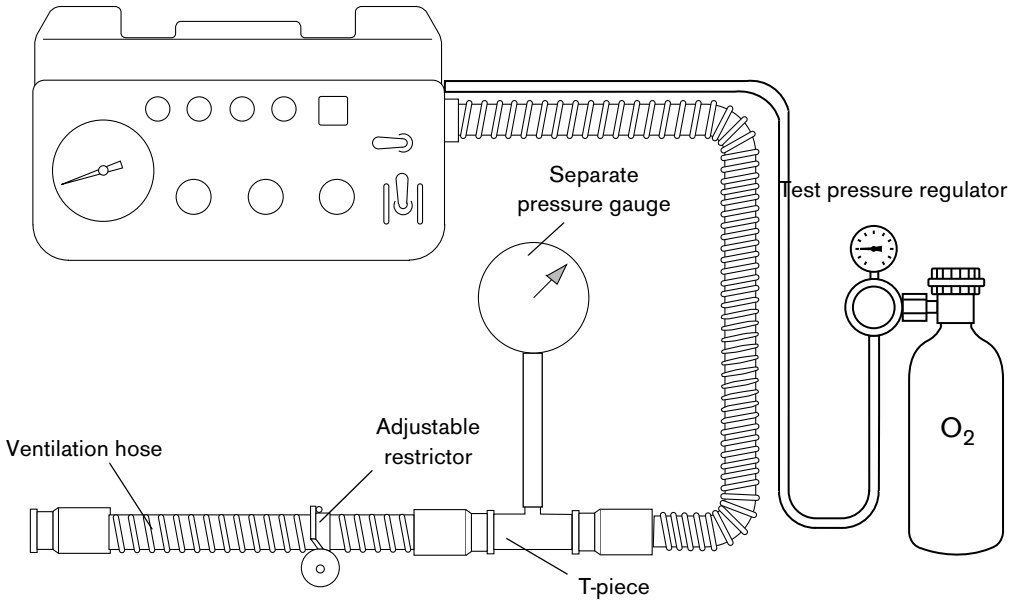

Fig. 8: Oxylog 1000 with test set-up: Checking the stenosis alarm

- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the Air Mix/ No Air Mix selector to the "Air Mix" position.
- Set the airway pressure adjuster (Paw) to right end stop.
- During the inspiratory phase, use the adjustable resistor to set an airway pressure of approx. 30 mbar (hPa) (Note: Read airway pressure on pressure gauge of Oxylog 1000).
- During the inspiratory phase, slowly close the ventilation hose further using the adjustable resistor until the indicator turns red (Paw high).

The "Paw high" switching point is at 50 to 60 mbar (hPa) (read the switching point on the pressure gauge of Oxylog 1000 and on the separate pressure gauge). ☐

- Set the airway pressure adjuster (Paw) to left end stop and repeat the test.

The "Paw high" switching point is at 21 to 28 mbar (hPa) (read the switching point on the pressure gauge of Oxylog 1000 and on the separate pressure gauge). ☐

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2.6.4 Checking the Alarm Sound Silence

Test set-up:

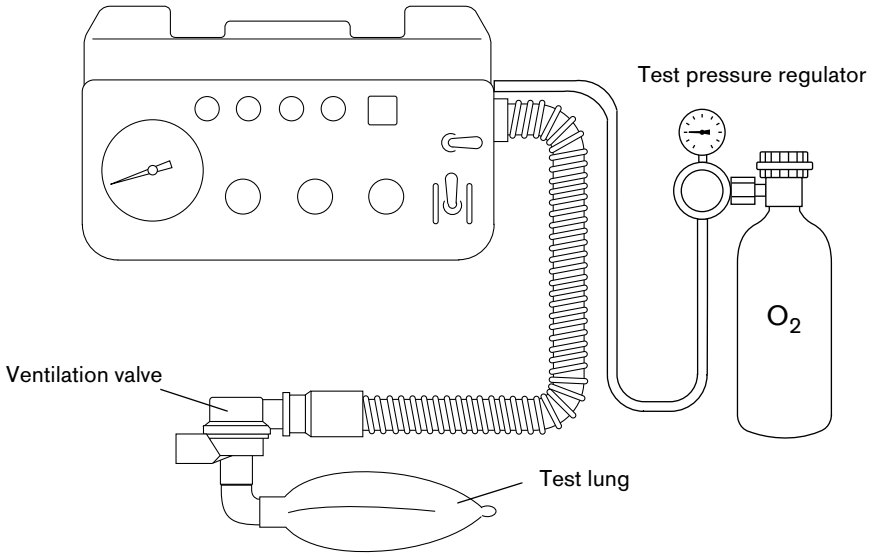

Fig. 9: Oxylog 1000 with test set-up: Checking the alarm sound silence

- Set the minute volume adjuster (MV) to 10 L/min.
- Set the frequency adjuster (Freq.) to 10 1/min.
- Disconnect the test lung from the ventilation valve.

Oxylog 1000 should generate an audible alarm. The "Paw low" indicator should turn red. ☐

- During the inspiratory phase, press the silence button.

The audible alarm should stop. The silence indicator should turn yellow. ☐

The audible alarm should restart after 2 minutes, at the latest. ☐

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2.7 Checking the O_2 Concentration

Test set-up:

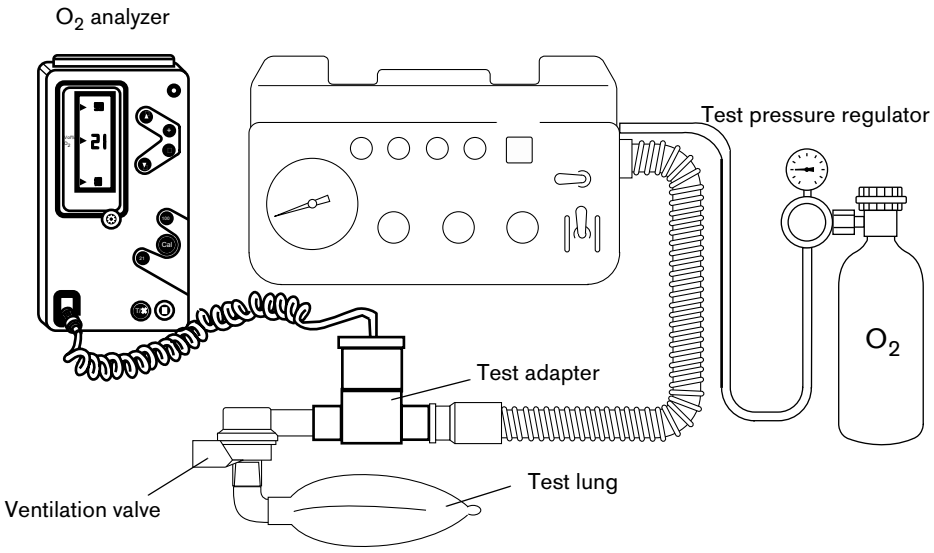

Fig. 10: Oxylog 1000 with test set-up: Checking the O_2 concentration

- Set the frequency adjuster (Freq.) to 10 1/min.
- Set the airway pressure (Paw) to right end stop.
- Set the Air Mix/ No Air Mix selector to the "Air Mix" position.
- Set the minute volume adjuster (MV) to 7 L/min.

The oxygen analyzer (Oxydig) should show 55 vol.% O_2 (40 to 65 vol.% O_2) on its display. ☐

- Set the minute volume adjuster (MV) to 20 L/min.

The oxygen analyzer (Oxydig) should show 55 vol.% O_2 (40 to 65 vol.% O_2) on its display. ☐

- Set the Air Mix/ No Air Mix selector to the "No Air Mix" position.

The oxygen analyzer (Oxydig) should show 100 vol.% O_2 on its display. ☐

- Switch off Oxylog 1000 using the ON/OFF switch.

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3 Supply Oxylog 1000 to user ready for operation.

4 Tested

Date: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Name: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

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